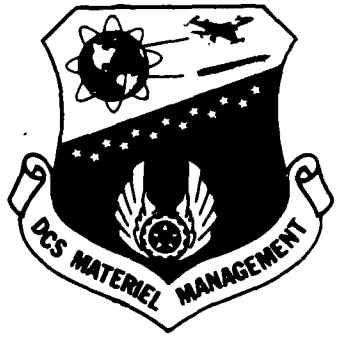
AIR FORCE LOGISTICS COMMAND

MATERIEL MANAGEMENT ANALYSIS

AD-A210 347



DTIC
ELECTE
JUL 1 9 1989
S D
D

1989 MASTER PLAN

DISTRIBUTION STATEMENT A
Approved for public release
Distribution Unlimited

AFLC

COMBAT STRENGTH THROUGH LOGISTICS
LOGISTICS SUPPORT THROUGH ANALYSIS

HQ AFLC/MMIS WPAFB OH

89 7 17 092

MASTER PLAN
TABLE OF CONTENTS

STATEMENT "A"
per GERA:D G. ELLMYER, LT. COL, USAF
CH MGT. INFO. SYSTEMS/ANALYSIS DIVISION
DCS.MATERREL MGT.
WPAFB,OH 45433-5001 7/19/89 CG

DTIC COPY INSPECTED 1

per call

A-1

FOREWORD

Introduction

The Management Information Systems/Analysis Division (MMIS) conducts logistics studies in the area of Materiel Management. Our charter is to develop better ways to budget, forecast, compute and execute Air Force recoverable and consumable item requirements. We analyze and propose fixes to materiel management problems; as well as, develop microcomputer software to exploit existing computer resources and implement the changing management information systems requirements as approved by the Deputy Chief of Staff for Materiel Management.

The purpose of this document is to identify those projects which we are actively studying, completed over the past year, and proposed projects for the future. This master plan provides an information link between this division, its customers, and the Air Force studies community. We believe this publication will help to avoid duplicate research, provide a means to solicit inputs from the analysis and user communities, and ensure a systematic approach to problem solving.

Overview

With the realignment of HQ AFLC Materiel Management, we took a hard look at how we categorize and prioritize our projects to support the MM functional areas. In the process of doing our own realigning we revised our subject area categories. The subject areas in this Master Plan are similar to our previous Master Plans. We dropped the Expert Systems/Artificial Intelligence (AI) subject area. The Directorate of Management Sciences (HQ AFLC/XPS) is now the Command OPR to manage the development of Expert Systems/AI applications. We replaced the Analysis Resources subject area with a subject area titled Management Information Systems. Finally, we dropped the Repair subject area and reallocated the projects into Recoverables, Financial Management and a new area titled Distribution and Repair In Variable Environments (DRIVE). The DRIVE subject area better portrays our analysis and functional integration efforts to implement the DRIVE concept in depot repair and distribution.

So, this year's MMIS Master Plan is divided into seven subject areas: (1) Consumable Resource Management, (2) Recoverable Resource Management, (3) War Reserve Materiel Resource Management, (4) Item Management, (5) Financial Management, (6) Management Information Systems, and (7) DRIVE. We address each subject area in the following paragraphs, along with the active, proposed and completed projects in that subject area.

This is the third year we've published the MMIS Master Plan. Over the past nine months (1 Oct 88 - 30 Jun 89) we have documented 46 completed projects.

GERALD G. ELLMYER, Lt. Col, USAF
Ch, Mgt Info Systems/Analysis Division
DCS/Materiel Management

BARRY L. OLIVER
Dep Dir for Future Systems
DCS/Materiel Management

CONSUMABLE RESOURCE MANAGEMENT

The Air Force manages over 500,000 Systems Support Division (SSD) consumable items with an inventory value exceeding $6 billion dollars. These items are generally low cost items in which it is usually cheaper to replace the item rather than repair the damaged one. The Air Force manages these items using a multi-echelon inventory system based on the Economic Order Quantity (EOQ) theory. Though these items may be cheaper than most recoverable items, they are by no means less important. As funding becomes more and more stringent, we must continue to develop methods to improve consumable item support.

In the last year, we have completed several studies to do just that. We implemented a new EOQ safety level which increases support and allows more management control on the allocation of the safety level dollars. We developed a PC model which is an effective tool in assisting the EOQ requirements manager to ensure the safety level requirement matches the safety level budget. Finally, we looked at ways to improve our forecasts of parts needed for depot level maintenance.

Our current projects include developing a PC model to assist the item manager in determining whether or not it is economical to terminate on-order assets. We are also studying the cost effectiveness of reducing the buy quantity for low demand items.

In addition, we are also examining the forecasting techniques used to compute consumable item requirements. More accurate forecasts will help the item manger in providing the right parts to support the aircraft.

Managing consumable items is a complex business. Our goal is to provide the tools to effectively manage those items.

PROJECT PLAN

Project Number: 88-1-003

Title: Demand Forecasting for Consumable Items

Project Manager: Mr Mark Gaetano, MMISA, AUTOVON 787-5270

MMIS Team Member: 2Lt Brian Hoffmann, MMISA, AUTOVON 787-5242

Project Sponsor: HQ AFLC/MMI-3

AFLC OPR: HQ AFLC/MMIES

Problem Statement: The current method of forecasting demand for consumable items may not be the best available technique. There are other methods to forecast demand, such as several types of exponential smoothing. These other methods may provide a more accurate forecast and provide better support. We need to analyze these alternative methods to ensure the Consumable Item Requirements (D062) System is forecasting demand as well as it can with the available data.

Project Objectives:

1. To compare alternative forecasting methods to the current system.

2. To determine the fill rate effectiveness and cost impacts of alternative forecasting methods.

3. To recommend improvements to the D062 system.

Technical Approach: Our first task is to build a historical data set using five years of actual data from an Air Logistic Center. We will calculate an average monthly demand rate across all the items at the ALC and examine this data for trends. Using this five year data set, we will also be able to evaluate the accuracy and stockage effectiveness of the current system's forecasts. The next step will be to develop several alternative forecasting techniques and to compare each alternative forecasting technique with the current system's forecasting technique. Finally, we will examine how a change from the current system's method of forecasting demand will impact the current D062 system and the support provided to the end user.

Anticipated Mission Impact: A better forecasting technique will help the Air Force to buy the right item at the right time. If we can reduce the chances of under or over forecasting, we can decrease the chances of backorders and excess.

Estimated Completion Date: Nov 89

COMPLETED PROJECT

Project Number: 87-1-003 (previous project number 871-15-003)

Title: Minimum EOQ For Unstable Items

Project Manager: Mr Mark Gaetano, MMISA, AUTOVON 787-5270

Project Sponsor: HQ AFLC/MMM-3

Synopsis: In our analysis, we examined several methods of identifying items which had declining demand patterns. We found that 80 percent of the items which become inactive have a monthly demand rate of less than one. We then used the monthly demand rate of less than one as a criteria for identifying declining items. We applied this method to our database containing four years of history and found we could decrease our chances of buying unnecessary inventory without any significant increase (less than one percent) in backorders. However, the savings would very likely be offset by increases in unit costs due to smaller order quantities. We recommended keeping the current minimum one year EOQ.

COMPLETED PROJECT

Project Number: 87-1-004 (previous project number 871-65-004)

Title: Parts Support To Depot Level Maintenance

Project Manager: Mr Rob Lucas, MMISA, AUTOVON 787-5249

Project Sponsor: HQ AFLC/MMM

Synopsis: Theoretically, Management of Item Subject to Repair (MISTR) is a good parts forecaster for depot maintenance repair requirements. It provides a wider range and depth of component parts to be stocked for maintenance repair than the AFLC Retail Stock Control and Distribution (D033) historical levels. However, analysis results show that large dollar and unit differences exist between what is forecasted and what is actually issued. Recommended improvements to the system include: 1) concentrating on accurate end item requirements, 2) a MISTR drive for critical items and for items non-negotiated due to lack of parts, and 3) use D033 demand levels for those items that are historically good performers.

COMPLETED PROJECT

Project Number: 88-1-005

Title: EOQ/Consumable Item Economic Termination Analysis

Project Manager: Mr John Fitzgerald, MMISA, AUTOVON 787-5272

Project Sponsor: HQ AFLC/MMIE

Synopsis: We developed a PC model to assist the item management specialist (IMSs) in determining the economic feasibility of terminating assets the EOQ Buy Budget Computation System (D062) computes as (potential) on-order excess. The model allows the item manager to determine whether or not to terminate the assets before obtaining actual costs from the contractor (a much more manpower intensive effort). We ran our model with a sample of over 2000 termination candidates, and found one-half of the items could be dealt with solely by the IMS. We recommend the IMSs use this model in the future.

COMPLETED PROJECT

Project Number: 88-1-006

Title: Depot Level Maintenance (DLM) Forecasting Techniques

Project Manager: Mr William E. Morgan Jr., XPSM, AUTOVON 787-7408

Project Sponsor: HQ AFLC/MMIE

Synopsis: We found for consumable repair parts that the requirements forecasts based on end-item DLM programs and replacement percents are highly inaccurate. The method based on past depot demand history provided a much better forecast for predicting consumable DLM requirements. For most items however, this forecasting technique is still inaccurate. We recommended investigating the accuracy of the end item repair data and the replacement rates being passed to D062. In addition, we recommended investigating other techniques that can be used to forecast consumable requirements to support depot level maintenance.

COMPLETED PROJECT

Project Number: 89-1-001

Title: Implementation of the New Wholesale EOQ Safety Level

Project Manager: Mr Mark Gaetano, MMISA, AUTOVON 787-5270

Project Sponsor: HQ AFLC/MMIE

Synopsis: In an earlier study, "Wholesale EOQ Safety Level", July 1988, we analyzed the System Support Division (SSD) consumable item wholesale safety level formula. As a result of our analysis, we recommended changes that would increase fill rates by four percent at the same requirements cost as today. While working implementation issues, we 'fine-tuned' the model to better support the high cost, high essentiality items and still achieve the four percent gain in unit fill rate. The high cost, high essentiality items can significantly impact mission support and therefore warrant safety level support. The variable safety level is designed to minimize back orders based on variable costs. Because the unit cost for consumable items varies from one cent to over one million dollars, the model tends to increase the safety levels for the inexpensive items, **since they provide a greater reduction in back orders per dollar spent.** So, we decided to set **safety level floors** to ensure the model supports the high essentiality, high cost items.

COMPLETED PROJECT

Project Number: 89-1-002

Title: Requirements Impact of Truncating EOQ Safety Levels

Project Manager: Mr Mark Gaetano, MMISA, AUTOVON 787-5270

Project Sponsor: HQ AFLC/MMM-4

Synopsis: We were asked to determine the impact of truncating versus rounding EOQ safty levels in the Requirements Data Bank (RDB) computation. We estimate a $16 million dollar reduction in the safety level requirement at the AFLC level. To compensate for the reduction in the requirement, we could increase the implied shortage factor, which is a control knob on the variable safety level. But the reallocation of the $16 million will be spent on different items and will provide less support for the high essentiality, high cost items. We recommended modifying the Requirements Data Bank to round the computed safety level value.

COMPLETED PROJECT

Project Number: 89-1-003

Title: Analysis of Kendall's Hypothesis Test

Project Manager: Mr Mark Gaetano, MMISA, AUTOVON 787-5270

Project Sponsor: HQ AFLC/MMM-3

Synopsis: We were asked to analyze the effectiveness of Kendall's test for use in the Economic Order Quantity (EOQ) Buy Budget Computation System (D062). The Kendall test is a statistical measure used to predict items with a stable or increasing demand trend. In our analysis, we found the Kendall test identifies less than one-third of the stable items and correctly categorizes approximately 59 percent of all items. The Kendall test is too conservative and is not very accurate. We also found approximately 80 percent of the inactive items have a monthly demand rate of less than one. Using the monthly demand rate as the only selection criteria identifies over 60 percent of the stable items at Ogden ALC and over 46 percent at Sacramento ALC. However, quantity buys based solely on the demand rate would cause item managers to buy too many unstable items, risking large buys of unneeded stock. We recommended using the monthly demand rate as an initial criteria in selecting items which are candidates for quantity price discounts. If the item has a monthly demand rate greater than one, then let the item manager make the decision based on their knowledge of the item.

COMPLETED PROJECT

Project Number: 89-1-004

Title: Implementation of M20 Retail Stratification

Project Manager: Mr Mark Gaetano, MMISA, AUTOVON 787-5270

Project Sponsor: HQ AFLC/MMMS

Synopsis: As a result of our earlier study, "Stock Fund Stratification," August 1987, we recommended, and Air Staff approved, several changes to the base level M20 Stratification Report which is used to stratify more than $7 billion in AF inventory. HQ SSC/SMS has programmed the changes and has given AFLC a test M20 product for review. We reviewed the test M20 product and had several concerns regarding the M20 report before implementation. We forwarded our concerns to Air Staff for review. As a result, the M20 report was revised to better stratify existing inventory and to improve the format of the report itself.

COMPLETED PROJECT

Project Number: 89-1-005

Title: Selection of EOQ Information for 1989 for Item Management Review (IMR)

Project Manager: Mr Larry Collins, MMISA, AUTOVON 787-5314

Project Sponsor: HQ AFLC/MMMSS

Synopsis: HQ AFLC/MMI conducts annual reviews to determine the accuracy of consumable item demand projections for items having quantitative requirements. To help the reviewing staff, we use the Depot Data Bank to identify demands that differ by more than plus or minus ten percent from the actual. We produced the required reports for the IMR and delivered these to the project sponsor.

COMPLETED PROJECT

Project Number: 89-1-006

Title: Setting the Implied Shortage Factor (ISF)

Project Manager: Mr Mark Gaetano, MMISA, AUTOVON 787-5270

Project Sponsor: HQ AFLC/MMIE

Synopsis: There is no systematic method available to adjust the variable safety level for consumable items when demands or funding change. We needed an easy to use way to adjust the safety level based on available funds which provides more accurate results than the current manual process. So, we developed a PC model programmed in Turbo Pascal (copyright 1987 Borland International) which uses historical data to determine the correct implied shortage factor. To supply the necessary data to the PC model, we first had to develop a FORTRAN program on the RDB mainframe computer. We simulated the wholesale safety level computation and computed the safety level goal for a wide range of different implied shortage factors by ALC. We then downloaded those data points computed on the mainframe to a floppy disk. The PC program works interactively and receives inputs from two input files and the user. The model then determines the new implied shortage factor based on the data points downloaded from the RDB mainframe and the user inputs. We recommend the model be used to set the ISF in the future.

PROJECT PROPOSAL

Title: Support Equipment Safety Levels

Project Sponsor: HQ AFLC/MMIE

Problem Statement/Mission Impact: We do not currently stock support equipment in anticipation of demands from the field. As a result, we are often a lead time away in filling users requests as they come in. We need to develop and recommend a stockage policy for this equipment.

PROJECT PROPOSAL

Title: Distribution Levels for Maintenance Inventory Center (MIC)

Project Sponsor: HQ AFLC/MMIE

Problem Statement/Mission Impact: Before the MA MIC transferred to DS, the MA MICs theoretically contained a thirty day supply of EOQ items on the shelf to support the shops and DS also held a thirty day supply of materiel to support MA. With the transfer of the MIC to DS, DS wants to double their buffer stocks. This increase may not be warranted and a smaller increase may be more appropriate. We need to build a model of the DS to MA supply interface to examine the buffer stock requirements.

PROJECT PROPOSAL

Title: Consumable Item Termination Policy

Project Sponsor: HQ AFLC/MMIE

Problem Statement/Mission Impact: In many cases, the item managers are not terminating assets on order which exceed the current termination level. The current termination level may be too low, which causes unneeded termination notices. Some items will generate a termination notice today and then generate a buy notice a few months later. We need to develop alternative termination levels and, if necessary, recommend improvements to the current system.

DROPPED PROJECT

Project Number: 871-15-001

Title: Multi-Echelon Model Validation

Reason: The multi-echelon model was used in our "Wholesale EOQ Safety Level" study. During our analysis, we ran the model hundreds of times using different input data to ensure the model reacted as the current system. In other words, we "validated" the model for that study. The multi-echelon model is very complex and covers all the areas used in computing EOQ requirements. Validating the entire model would be extremely time consuming. We will continue to use and "validate" the model as we progress in future projects.

DROPPED PROJECT

Project Number: 871-15-005

Title: Review of Cost-to-Order Factors

Reason: HQ AFLC/ACC was tasked to update the cost-to-order factors. The necessary data was received from HQ AFLC/PMX and HQ AFLC/XPM. After HQ AFLC/ACC received the data, they decided that due to the difference in the time frames of the data, the compilation of the cost factors would not be accurate. Our tasking was to assist ACC on computing the factors and ensure the logic used was correct. Since the factors can not be computed without accurate data, we are dropping the project.

RECOVERABLE RESOURCE MANAGEMENT

AFLC is in the midst of a large computer modernization project where old batch process programs are being replaced by real time software. These systems are designed to improve the flow of information and increase our warfighting capability. As we implement these systems, it is especially important to ensure the data feeds are as accurate as possible.

Project Dirty Data was an AFLC-wide effort to examine different reporting systems that feed the Recoverable Consumption Item Requirements System (D041). Inaccurate and missing data from repair and supply systems impacts our ability to make accurate requirements determinations and weapon system supportability assessments. Our dirty data projects examine base and depot supply information, asset and procurement lead time data, maintenance and requisitioning data, and contract repair data. These data elements have a significant impact on D041's computation of an annual $2.8B recoverable spares budget. As we continue to implement new models and systems, valid data transactions are vital to accomplish operational readiness in the command.

We also need to continuously strive to improve the way we do our business. We are working with the AFLMC to study new and different operating procedures to take advantage of new ideas and technologies. One study -- the AFLMC Depot Repairable (XD) Range Policy -- allows users to begin stocking items earlier and, therefore, provides better mission support. Recently, we determined the impact of the AFLMC proposed XD range policy on the D041 requirement. Another project, Repair Performance Analysis, measures the effectiveness of exchangeable depot repair and highlights repair bottlenecks. The analysis capability is on line and will be available to all WSMIS users.

We also include in this section a series of projects to improve the Air Force's Central Leveling System (D028). The projects include a review of the data feeding D028 to develop edits that identify suspicious demand rates and repair factors. Erroneous data results in non-optimal levels. A related study involves analyzing the volatility of the D028 allocated levels. It doesn't make sense to redistribute assets around the world to reduce expected back orders by a very small amount. We need to develop some threshold value to determine when the benefit (in reduced back orders) is worth the redistribution cost.

Through these studies and others, we will focus on providing better mission support. By improving our computer systems, data interfaces, and operating policies, we will increase our combat capability.

PROJECT PLAN

Project Number: 87-2-007 (previous project number 871-25-007)

Title: Central Leveling System (D028) Volatility

Project Manager: Ms Dyann Beatty, MMISA, AUTOVON 787-5289

Project Sponsor: HQ USAF/LEYS

AFLC OPR: HQ AFLC/MMIR

Problem Statement: The Air Force Central Leveling System (D028) causes extreme volatility to base levels; up to 41 percent of the levels change every month. This results in assets being redistributed needlessly and in reduced support. We need to determine ways to reduce D028 volatility without sacrificing system responsiveness.

Project Objectives:

1. Measure and determine if the improvement in supply support resulting from the reallocation of requirements levels is worth the asset redistribution cost.

2. Recommend measures to decrease unnecessary system volatility.

3. Recommend where changes should be made.

Technical Approach: Weigh reallocation costs against supply support benefits. Access, run, and modify the D028 Requirements Data Bank computer program to assess the impact of changes in input data and frequency of system processing with regard to system support, expected back orders, and mission capability.

Anticipated Mission Impact: Expected decrease in unnecessary reallocation costs and improvement in supply support.

Estimated Completion Date: Jul 89

PROJECT PLAN

Project Number: 87-2-011 (previous project number 871-45-011)

Title: Dirty Data: Asset and Procurement Lead Time Data

Project Manager: Ms Dyann Beatty, MMISA, AUTOVON 787-5289

Project Sponsor: HQ USAF/LEXY

AFLC OPR: SA-ALC/MMMA

Problem Statement: To identify the sources of invalid data transactions across contracting, supply and depot interfacing systems, simplifying data reporting where possible.

Project Objectives:

1. Determine work flow process and current system processing.

2. Identify corrective action.

3. For a sample of NSN's, consolidate item reporting across all interfacing systems and perform data reconciliations and isolate problem areas.

Technical Approach: To be determined by SA-ALC.

Anticipated Mission Impact: To determine and fix any problem areas within current systems.

Estimated Completion Date: Jul 89

PROJECT PLAN

Project Number: 87-2-012 (previous project number 871-45-012)

Title: Dirty Data: Contract Repair Data

Project Manager: Ms Dyann Beatty, MMISA, AUTOVON 787-5289

Project Sponsor: HQ USAF/LEXY

AFLC OPR: SM-ALC/MMMA

Problem Statement: Two sources of "dirty data" are from contract repair activity reporting systems: the Government Furnished Material Transaction Reporting System (G009) and the Contract Depot Maintenance Production and Cost Subsystem (G072D). If we do not have accurate records of this activity, then our requirements position and predictions result in overbuys for items which undergo contract repair.

Project Objectives:

1. Identify the sources of invalid data transactions across contract repair and depot interfacing systems.

2. Streamline data reporting where possible.

Technical Approach: To identify applicable system interfaces and flow chart the item data from manual sources to transaction and reporting systems. For a sample of NSNs, SM-ALC will consolidate item reporting across all interfacing systems and perform data reconciliations and isolate problem areas.

Anticipated Mission Impact: AFLC can benefit from an improved understanding of their reporting systems, improved item manager tracking of potential dirty data problems, and system integration roadmaps which can be used to assist the Logistics Modernization System (LMS) efforts.

Estimated Completion Date: Jul 89

PROJECT PLAN

Project Number: 87-2-014 (previous project number 871-45-014)

Title: Dirty Data: Maintenance and Requisitioning Systems

Project Manager: Ms Dyann Beatty, MMISA, AUTOVON 787-5289

Project Sponsor: *HQ USAF/LEXY*

AFLC OPR: OO-ALC/MMMD

Problem Statement: Inaccurate and missing data from organizational and intermediate maintenance (OIM) and depot reporting systems is affecting our ability to accurately prioritize repair schedules and allocate serviceable assets. As we continue to implement new models and systems, such as the Distribution and Repair in Variable Environments (DRIVE) concept, valid data transactions are vital to accomplish operational readiness in the command.

Project Objectives:

1. To identify the sources of invalid data transactions across the Stock Control and Distribution System (SC&D) and Air Force Recoverable Assembly Management System .

2. To simplify data reporting where possible.

3. To recommend improvements in data collection, editing and transmission.

Technical Approach: To identify applicable system interfaces and compare reports of similar data across sample of NSNs. To streamline data reporting when possible and develop general approach for improving entire requirements reporting process.

Anticipated Mission Impact: Improved requirements estimates, from better maintenance manpower use, and from reduced MICAP hours will result from this project. Cleaning up dirty data inputs to the DRIVE model will improve DRIVE's performance as a readiness tool. Future modeling efforts may also benefit from the results of this study.

Estimated Completion Date: Jul 89

PROJECT PLAN

Project Number: 89-2-002

Title: Implementation of Repair Performance Analysis in WSMIS

Project Manager: Capt Alan Closson, MMISA, AUTOVON 787-5249

MMIS Team Member: Mr Bob Appelbaum, MMISA, AUTOVON 787-5269

Project Sponsor: HQ AFLC/MMI-3

AFLC OPR: HQ AFLC/MMIS

Problem Statement: AFLC needs a way to measure the performance of exchangeable depot repair. A previous study, "Repair Performance Analysis", May 1988, established the need for a series of five screens to track depot repair of critical items. We need to establish the Repair Performance Analysis screens in WSMIS to measure the effectiveness of exchangeable depot repair.

Project Objectives:

1. Establish the two aggregate level screens in WSMIS.

2. Establish the three item level screens in WSMIS.

Technical Approach: Identify the source of the Repair Performance Analysis data and ensure each screen is properly implemented.

Anticipated Mission Impact: The Repair Performance Analysis screens will allow managers to consolidate information from several sources on one screen.

Estimated Completion Date: Dec 89

PROJECT PLAN

Project Number: 89-2-003

Title: Reliability-Based Forecasting

Project Manager: Mr Mark Gaetano, MMISA, AUTOVON 787-5270

Project Sponsor: LMSC/SMO

AFLC OPR: LOC/PNO

Problem Statement: Inaccurate engine condemnation rate forecasts used in the current requirements systems cause parts shortages, degrade engine supportability, and impact weapon system operational readiness.

Project Objectives:

1. To improve engine item support.

2. To correctly forecast item demands through the computation period.

3. To base the forecast on engineering diagnostics as well as historical demand behavior.

4. To overlay the forecast into the D041 system.

Technical Approach: Our first task is to understand the flow of engine data through the LMS systems. We can then determine which areas require study and collect the appropriate data for analysis. We will perform system cross-checks to ensure both the timeliness and the quality of the data being passed between systems. Once completed, we will publish a final report containing our conclusions and recommendations.

Anticipated Mission Impact: Engine items that are now in long supply will be used effectively or terminated as a result of better engine factors. High-cost critical engine items will be optimally ordered and stocked. In addition, reliability-based forecasting will provide the item managers a clearer picture of how engine requirements should be generated using engine characteristic data.

Estimated Completion Date: Dec 89

PROJECT PLAN

Project Number: 89-2-004 (previous project number 881-25-007)

Title: D041 On Order Excess Termination Threshold Policy

Project Manager: Mr John Fitzgerald, MMISA, AUTOVON 787-5323

MMIS Team Member: Mr Larry Collins, MMISA, AUTOVON 787-5314

Project Sponsor: HQ AFLC/MMMR

AFLC OPR: HQ AFLC/MMMR

Problem Statement: Currently a large number and dollar value of items stratify as potential on order excess in the Recoverable Item Requirement System (D041). Few are being terminated. The dominant reason cited for not terminating is "factor fluctuation", meaning while demand factors decreased since the order was issued (causing the termination indication), they are expected to increase again (requiring the assets to be reordered if it is terminated). We need to develop threshold criteria which reduce chances of small factor fluctuations causing cancellations and reorders.

Project Objectives:

1. Evaluate demand factor variability relative to termination and reorder.
2. Evaluate the current thresholds for intiating "buys" and see if an analgous criteria can be used to screen "teminations".

3. Recommend improvements to the current system as appropriate.

Technical Approach: We will look at past data that is procurement lead time away from the most recent history to estimate forecast variance. We will then estimate probabilities of reordering after terminating under various percentage threshold criteria.

Anticipated Mission Impact: Savings of Item Management Specialist resources and reduction of termination and (subsequent) reorder costs.

Estimated Completion Date: Oct 89

COMPLETED PROJECT

Project Number: 87-2-010 (previous project number 871-45-010)

Title: Dirty Data: Base Repair and Supply Data

Project Manager: Ms Dyann Beatty, HQ AFLC/MMISA, AUTOVON 787-5289

Project Sponsor: HQ USAF/LEXY

Synopsis: In their study, OC-ALC estimated that 16 to 25 percent of base demand data is never received by AFLC logistics systems due to manual base procedures and air gaps between the base supply and base communication center computer. OC-ALC also discovered a programming error in the Stock Control and Distribution System (D035) which caused mismatches with other AFLC databases. To improve subsequent mechanical usage reporting, images are now automatically produced by batch reports and provide an acknowledgment receipt. The error in the D035 system was corrected We recommend funding the Host AUTODIN Message Processing System (HAMPS) worldwide. HAMPS eliminates the need to hand carry tapes from the base supply computer to the base communications center, a major source of missing/lost data in the past. Improved support to base supply and more efficient allocation of AF item resources have resulted from this effort.

COMPLETED PROJECT

Project Number: 87-2-013 (previous project number 871-45-013)

Title: Dirty Data: Depot Supply Data

Project Manager: Ms Dyann Beatty, MMISA, AUTOVON 787-5289

Project Sponsor: HQ USAF/LEXY

Synopsis: WR-ALC/MMMA completed their study and briefed their results. They discovered no errors within the systems they studied. Having tracked data throughout Air Force Recoverable Assembly Management System subsystems WR-ALC/MMMA no errors were detected and all transactions processed without error. Multiple built-in edits insure that no defective information is being passed. They recommended the transactions be reexamined in Jan-Jun 90 time frame, as D033 will be incorporated into D035 at that time. This effort standardized a "quality check" within the ALC to ensure effective depot supply support.

COMPLETED PROJECT

Project Number: 89-2-001

Title: Impact on Recoveable Consumption Item Requirements System (D041) Requirement of Depot Repairable (XD) Range Policy

Project Manager: Mr Mark Gaetano, MMISA, AUTOVON 787-5270

Project Sponsor: Air Force Logistics Management Center

Synopsis: A proposed AFLMC study recommended that bases stock XD items sooner than under the current policy. We needed to evaluate the impact of the new criteria. Of the 4,160 items and 29,672 user records in our database, we found the proposed policy would affect 1,415 (4.7 percent) users across 839 items. The majority of the users affected (1,142 of 1,415) are identified as users under both the current and proposed policy. However, the proposed policy identifies users earlier and allows these users to begin stocking items earlier. This early identification provides better mission support. Only 273 users affected (1,415 - 1,142) are additional users identified by the proposed policy and not identified by the current policy. We also determined the safety level impact. The overall cost effect was extremely small. We project an Air Force-wide impact of $1.4 million (0.04 percent) in requirements. We recommended the Air Force implement the AFLMC proposed XD Range policy.

PROJECT PROPOSAL

Title: Establish Edit Criteria for D028

Project Sponsor: HQ USAF/LEYS

Problem Statement/Mission Impact: Incorrect Air Force Recoverable Central Leveling System (D028) input and output data degrade system effectiveness by delivering suboptimal levels of support. This may cause an increase in redistribution costs. Currently there is no edit capability to identify suspected data errors and to suspense corrective action. We expect improvements in supply support resulting from more accurate and stable D028 data.

PROJECT PROPOSAL

Title: Treatment of NASSLs in D028

Project Sponsor: HQ USAF/LEYS

Problem Statement/Mission Impact: Currently the Air Force Recoverable Central Leveling System (D028) does not allocate levels equally to bases which are authorized New Activation Spares Support Lists (NASSLs) versus those bases which are authorized Initial Spares Support Lists (ISSLs). Both NASSLs and ISSLs are provided to support weapon systems new to an individual base.

PROJECT PROPOSAL

Title: Calibrating D028 Aircraft Availability with the Aircrft Availability Model (AAM)

Project Sponsor: HQ AFLC/MMI-3

Project Statement/Mission Impact: The Air Force Recoverable Central Leveling System (D028) allocates levels to minimize base level back orders and therefore might not allocate requirements levels to maximize aircraft availability. We need to model an allocation of requirements levels to maximize available aircraft.

PROJECT PROPOSAL

Title: Develop an Analysis Capability for the Recoverable Aircraft Spares Requirements Computation

Project Sponsor: HQ AFLC/MMI

Project Statement/Mission Impact: AFLC needs a way to evaluate the cost and mission support impacts of changes to recoverable item stockage policy. We need a data base, the Aircraft Availability Model (AAM), and the Variable Safety Level (VSL) model on line where we can easily make changes to the data or the computations and assess the results. This project would result in quick-turn analysis capability to investigate stockage policy issues for recoverable spares.

PROJECT PROPOSAL

Title: New Demand Forecasting and Variance-to-Mean Ratio (VTMR) Formula for Investment Spares Requirements

Project Sponsor: HQ AFLC/MMIS

Project Statement/Mission Impact: The current Recoverable Consumption Item Requirements System (D041) formula for forecasting item demands and item VTMRs is not as effective as it can be. A recent contractor study recommended new formulas. We must perform an independent validation of the new approach using current D041 data and determine how to implement the new approach in the current requirements system and in the Requirements Data Bank (RDB). This project will result in more accurate and credible computation of requirements for investment spares, resulting in better aircraft availability and overall operational support.

DROPPED PROJECT

Project Number: 881-25-005

Title: Accuracy of D028 Input Data

Reason: This project has been accomplished through previous Dirty Data efforts between the LMSC and HQ AFLC/MM.

DROPPED PROJECT

Project Number: 381-25-004

Title: Statistical Survey of D041 Item Data Base

Reason: Project was conceived in-house to improve the ALERT BP15 POM forecasting model (OPR: MMISA), a financial management project. All planned improvements to ALERT are discussed in the financial management section of this Master Plan.

DROPPED PROJECT

Project Number: 881-65-009

Title: Job Routed Repair

Reason: The recoverables OPR no longer has a requirement for this project. Policy already identifies job routed items with long supply.

WAR RESERVE MATERIEL RESOURCE MANAGEMENT

In the area of War Readiness Spares Kits (WRSK) and Base Level Self Sufficiency Spares (BLSS), our primary goal is to support the implementation of the Weapon System Management Information System/Requirements Execution Availability Logistics Module (WSMIS/REALM). The objectives of our projects and REALM are to streamline the WRSK/BLSS pre-review, computation, and post-review processes. In REALM, we're automating the rates and factors review, improving the requirements computation, implementing a limited funding computation, and providing an automated requisition schedule for the allocation of supportable WRSK/BLSS assets.

Today's WRSK/BLSS reviews are lengthy and involve tedious face-to-face meetings. MAJCOM and AFLC personnel work almost exclusively from hard copy listings and spend time reviewing MAJCOM and worldwide demand data--even when the differences are insignificant. We've already developed (and are in the process of implementing) ways to automate the load of rates and factors and provide real-time, on-line access to review data. To identify items that don't need reviewing, we've developed and are currently testing an algorithm that could be used to automatically compare demand rates and identify only those items whose demand rate differences would change the computed level for that item. To actually help select the accurate rates and factors, we're looking very closely at the results of five recent MAJCOM WRSK Fly-Out exercises.

Last year, we helped implement Dyna-METRIC in REALM to compute requirements. *Dyna-METRIC is better than the previous system* because it accurately considers indentures and optimizes aircraft availability. This year we helped implement a modified version of Dyna-METRIC that fully optimizes investment tradeoffs between Line Replaceable Units and Shop Replaceable Units. We are currently analyzing Dyna-METRIC's capability to compute WRSK/BLSS requirements for strategic airlift, non-airborne systems, and other items not computed in today's system. We also developed a limited funding computation in June 1988 that uses Dyna-METRIC to maximize aircraft availability within a funding constraint and plan to help implement this computation in REALM in August 1989.

For the post-review process we are helping to develop an automated requisition schedule in REALM. Today's requisition schedule process is entirely manual and unscientific. REALM will include an on-line, interactive post-review database which will automatically allocate supportable asset levels and update the MAJCOM data systems with these levels.

To further improve the capability provided by WRSK/BLSS, we've developed a method for computing the requirements for spares needed for the major repair of **battle damaged** aircraft. Today's kits do not include such spares. We've already demonstrated that the Air Force should include spares to repair aircraft battle damage in WRSK/BLSS and that our methodology is feasible. We're currently involved in a contract effort to validate our methodology and plan to complete this effort in July 1989.

PROJECT PLAN

Project Number: 88-3-003

Title: Combat Battle Damage Spares Kit Validation

Project Manager: Lt Lisa Oster, MMISA, AUTOVON 787-5270

Project Sponsor: HQ AFLC/MM

AFLC OPR: HQ AFLC/MMIR

Problem Statement: In an earlier report, "Computing Combat Battle Damage Spares Kits," Jan 88, we developed a feasible method to predict battle damage and compute battle damage spares requirements. We now need to validate our approach, which uses a combination of models called SCANMOD and REPAIR.

Project Objectives:

1. To compare SCANMOD battle damage predictions to actual war data and to operational flight test data to validate the SCANMOD approach.

2. If the model is valid, identify model improvements necessary to compute combat battle damage spares kits.

Technical Approach: We will run SCANMOD with the proper data base and threat data and compare the predicted battle damage to actual war data and operational test data (from Air Force and Navy tests).

Anticipated Mission Impact: Increased combat capability and the reduction of inapplicable inventory levels.

Estimated Completion Date: Jul 89

PROJECT PLAN

Project Number: 88-3-013

Title: CORONET WARRIOR II Data Analysis

Project Manager: Lt Lisa Oster, MMISA, AUTOVON 787-5270

Project Sponsor: HQ AFLC/MM

AFLC OPR: HQ AFLC/MMIS

Problem Statement: CORONET WARRIOR II (CWII) is a TAC exercise conducted at Shaw AFB to test the ability of the F-16 War Readiness Spares Kit (WRSK) to meet its wartime tasking. The Air Force needs to collect logistics data during the 30-day exercise and analyze the data to improve the way it computes war requirements.

Project Objectives:

1. Test the validity of using Dyna-METRIC to compute and assess Remove and Replace (RR) WRSK.

2. Investigate the accuracy of the current methods to forecast wartime failure rates and to compute demand rates for non-optimized (NOP) items.

3. Analyze modeling assumptions and maintenance concepts for F-16 WRSK.

Technical Approach: We'll repeat our CORONET WARRIOR analysis using CWII data. First we'll see how well the Dyna-METRIC computed kit supported the exercise as well as predicted its outcome. We'll also compare the CWII actual failure data to various forecasts of the demand rate to include: peacetime Shaw AFB data, worldwide failure data, and the current system's forecast of failures. For NOP items, we'll compare the actual failures to the computed demand rates the Air Force currently uses to assess NOP items. Finally, in conjunction with TAC we'll examine other modeling issues.

Anticipated Mission Impact: More combat capability and more accurate ways to compute war requirements.

Estimated Completion Date: Jul 89

PROJECT PLAN

Project Number: 89-3-002

Title: Strategy for Prioritizing Limited WRSK/BLSS Funding

Project Manager: Capt Tim Sakulich, MMISA, AUTOVON 787-4139

MMIS Team Member: Lt Lisa Oster, MMISA, AUTOVON 787-5270

Project Sponsors: HQ AFLC/MM and MAJCOM/LGs

AFLC OPRs: HQ AFLC/MMMC and HQ AFLC/MMIR

Problem Statement: There's insufficient BP15 funding to fully support wartime spares funding levels or to purchase WRSK/BLSS for new production and systems undergoing modifications. In Dec 88, AFLC and the MAJCOMs agreed to cooperate to develop a strategy for prioritizing limited WRSK/BLSS funding for FY90 budget execution (Aug 89).

Project Objectives:

1. Produce a buy priority list detailing WRSK/BLSS assets (by NSN) to buy given limited funds and existing assets.

2. Prioritize assets based upon operational need.

3. Provide appropriate products for the IMS, SPM, ALC WRM monitor, and HQ AFLC/MMMI.

Technical Approach: We can use the budget execution process already defined in the REALM FD to perform limited funding computations and provide a prioritized "shopping list" of critical items to buy by NSN. The data required by the IMS, SPM, and budget program manager will be available within REALM and we'll work with MMMC and MMIR to design the appropriate products. The proposed allocation method will be flexible to use the new (but not yet approved) Air Staff priority scheme or funding constraints provided by USAF/LEXW.

Anticipated Mission Impact: The improved allocation method will maximize aircraft availability within funding constraints, ensure support of critical items, and prioritize asset allocation to provide enhanced operational capability.

Estimated Completion Date: Sep 89

PROJECT PLAN

Project Number: 89-3-003

Title: Strategic Airlift WRSK/BLSS Computation

Project Manager: Capt Matt Stone, MMISA, AUTOVON 787-5249

MMIS Team Members: Capt Tim Sakulich, MMISA, AUTOVON 787-4139
1Lt Lisa Oster, MMISA, AUTOVON 787-5270

Project Sponsor: HQ MAC/LGS

AFLC OPR: HQ AFLC/MMIRS

Problem Statement: We need to investigate various computation options using Dyna-METRIC to compute WRSK/BLSS for strategic airlift.

Project Objectives:

1. Determine the best options for using Dyna-METRIC to compute WRSK/BLSS for strategic airlift aircraft.

2. Define the data requirements and interfaces needed to implement REALM for strategic airlift.

3. Document the REALM strategic airlift process in the *REALM Functional* Description (FD).

Technical Approach: We plan to use the modified version of Dyna-METRIC (Aircraft Sustainability Model) to compute various kits considering different parameters which are unique to the MAC strategic airlift scenario. We will use the new WSMIS/SAM Strategic Airlift Assessment Model to assess each of the computed kits. Based upon these assessments, we will determine which computation option provides the best support for the least cost.

Anticipated Mission Impact: Using WSMIS/REALM to compute strategic airlift WRSK/BLSS requirements will provide better performance for the same or less cost. It will provide the capability to maximize performance under fiscal constraints as well as automate the current manual, labor-intensive segmentation process.

Estimated Completion Date: Oct 89

PROJECT PLAN

Project Number: 89-3-004

Title: REALM Automated Demand Data Comparison

Project Manager: Capt Matt Stone, MMISA, AUTOVON 787-5249

MMIS Team Members: Capt Tim Sakulich, MMISA, AUTOVON 787-4139
1Lt Lisa Oster, MMISA, AUTOVON 787-5270

Project Sponsor: HQ AFLC/MMIRW

AFLC OPR: HQ AFLC/MMIRW

Problem Statement: Reviewing demand data for the tremendous number of stock numbers during a weapon system WRSK review is costly both in terms of manhours expended and in TDY costs. We need a method to screen out those items having insignificant demand rate differences among the MAJCOMS and worldwide averages.

Project Objectives:

1. Determine the validity of a proposed approximation to compare the requirements impacts of demand rate differences.

2. Define and automate rules for selecting items for review.

3. Document the functional requirements for REALM.

Technical Approach: Dr Doug Rippy of the University of Dayton developed a computationally efficient algorithm which approximates the item requirements as computed by the Aircraft Sustainability Model (modified Dyna-METRIC). Our task is to validate Dr Rippy's algorithm to see if it will work for kits of varying size (number of line items), PAA, and confidence level.

Anticipated Mission Impact: If valid, Dr Rippy's approximation can be used to quickly determine when differences in the D041 and major command demand rates will result in a different item requirement. We can then use his approximation algorithm to identify cases where differences in demand rates are insignificant, thus reducing the number of items requiring manual review. Fewer items will require formal review thus saving dollars and manpower. Less time will be spent in the review cycle, thus making results usable at all levels sooner than with today's system.

Estimated Completion Date: Jul 89

PROJECT PLAN

Project Number: 89-3-005

Title: Non-Airborne WRSK/BLSS Requirements Prototype

Project Manager: Capt Tim Sakulich, MMISA, AUTOVON 787-4139

MMIS Team Member: Lt Lisa Oster, MMISA, AUTOVON 787-5270

Project Sponsors: HQ AFCC/LGS, SM-ALC/MM

AFLC OPR: HQ AFLC/MMIR

Problem Statement: Non-airborne requirements are manually computed and file maintained without the benefit of any scientific marginal analysis tradeoff. We need to compute a least cost spares mix to achieve non-airborne wartime support objectives.

Project Objectives:

1. Develop a prototype to compute and assess non-airborne WRSK/BLSS requirements.

2. Determine the necessary data sources.

Technical Approach: The Analytical Science Corporation (TASC) is the WSMIS contractor who will develop the non-airborne requirements computation prototype. The prototype effort will determine how to best compute non-airborne requirements using Dyna-METRIC.

Anticipated Mission Impact: The prototype system will provide an automated computation of non-airborne WRSK/BLSS requirements and allow the Air Force to more accurately determine non-airborne WRSK/BLSS requirements by computing a least cost spares mix to achieve wartime support objectives.

Estimated Completion Date: Feb 90

COMPLETED PROJECT

Project Number: 87-3-007

Title: WSMIS/REALM Failure Data Comparison

Project Manager: Capt Tim Sakulich, MMISA, AUTOVON 787-4139

Project Sponsor: HQ USAF/LEYS

Synopsis: An OO-ALC prototype was used by The Analytical Science Corporation (TASC) to develop the format for a system interface between DO41 and FG69FN records, the source of the major commands' (MAJCOM) rates and factors for a WRSK/BLSS review. This interface allows for an automated review process that produces review worksheets. These worksheets can be reviewed on-line or off-line by any user. Following the review and computation, various reports can be generated to describe the results.

COMPLETED PROJECT

Project Number: 87-3-008

Title: WSMIS/REALM Limited Funding Budget Execution Prototype

Project Manager: Capt Tim Sakulich, MMISA, AUTOVON 787-4139

Project Sponsor: HQ USAF/LEYS

Synopsis: The Budget Execution Work Group worked to define a scientific, automated method for determining the most effective (in terms of an aircraft support objective) mix of spares to be acquired with limited wartime aircraft replenishment spares dollars. One of the most difficult issues addressed was the accurate determination of the existing baseline asset position that can be applied against the buy requirement. After considering several alternatives, the work group determined that the D041/Requirements Data Bank (RDB) was the best source of data required to compute the baseline asset posture. In July 88, the REALM Budget Execution process achieved Initial Operational Capability when DRC performed a Budget Execution demonstration for the F-16. The demonstration proved that Dyna-METRIC could be used to compute a limited funding WRSK/BLSS requirement. The Dec 88 version of the REALM documents the limited funding computation process and provides a general sequence of major events and the data required in the process. The FD also describes the formats for the products to be used by IMSs, SPMs, and budget program managers. Full operational capability for REALM Budget Execution is planned for Oct 90 (see active project 89-3-002).

COMPLETED PROJECT

Project Number: 88-3-008

Title: Strategic Airlift WRSK/BLSS Requirements Prototype

Project Manager: Capt Tim Sakulich, MMISA, AUTOVON 787-4139

Project Sponsor: HQ MAC/LGS

Synopsis: MMISA and The Dynamics Research Corporation (DRC) worked closely with HQ MAC/LGSW to define MAC's current process for computing strategic airlift aircraft WRSK/BLSS and to establish guidelines for demonstrating how Dyna-METRIC could be used for strategic airlift. In our analysis, we computed C-141 WRSK using MAC's method and compared this kit to three Dyna-METRIC kits. The Dyna-METRIC kits were computed for (1) 'One base' and allocated per MAC's current allocation scheme to each base then to each segment, (2) six bases (six identical kits, one per base) and allocated to segments, and (3) forty-two unique 'bases', one kit per base per segment. After reviewing the resulting kits and assessing all four kits against the same scenario, we concluded that the second Dyna-METRIC computation option would provide MAC the best support for the least cost. DRC documented this analysis in a Sep 88 technical report "WSMIS/REALM Strategic Airlift Demonstration".

COMPLETED PROJECT

Project Number: 88-3-009

Title: WSMIS/REALM Functional Description

Project Manager: Capt Tim Sakulich, MMISA, AUTOVON 787-4139

Project Sponsor: Chapter 14 Work Group and HQ USAF/LEYS

Synopsis: A users group consisting of MMISA, MMMR, LMSC/SMWW, Air Logistic Center item management specialists, system program managers, WRSK monitors, and MAJCOM representatives worked together to exactly define REALM's requirements. The REALM FD provides the documentation for these requirements and describes REALM's operation and output products. The FD also incorporates the functional requirements that are outlined in the Requirements Data Bank (RDB) LAG 2, Segment 6B, WRSK/BLSS Process Functional Description (PFD).

COMPLETED PROJECT

Project Number: 88-3-010

Title: WSMIS/REALM Integration Plan

Project Manager: Capt Tim Sakulich, MMISA, AUTOVON 787-4139

Project Sponsor: HQ USAF/LEYS

Synopsis: A REALM Integration Plan technical report was published by DRC in Jun 88. The report provides a time-phased development and integration schedule and describes how REALM will be developed and integrated with the current and planned systems. The integration plan consists of four phases: Phase I - Replace the D029 WRSK/BLSS computation and budget execution computation; Phase II - Absorb D029 and provide an on-line master data base; Phase III - Provide the budget execution tracking and requisition processes; and Phase IV - Absorb the WRM portion of D040. Phase IV is scheduled for completion in Oct 89. The technical report describes each of the four development phases and provides target completion dates. It also provides target completion dates for the two major REALM software releases, support documents, system reviews, and training support requirements. REALM final operational capability is scheduled for Oct 90.

COMPLETED PROJECT

Project Number: 88-3-015

Title: Automated Requisition Schedule in WSMIS/REALM

Project Manager: Capt Tim Sakulich, MMISA, AUTOVON 7874139

Project Sponsor: Chapter 14 Working Group and HQ USAF/LEYS

Synopsis: A users group consisting of MMMA, MMMR, LMSC/SMWW, Air Logistic Center IMSs, SPMs, WRSK monitors, and MAJCOM representatives worked together to define the requirements for automated requisition schedule process and have documented these requirements and procedures in the Sep 88 version of the REALM FD. The ultimate objective of the requisition schedule process is to field required assets to appropriate units. Specifically, the requisition schedule will 1) automatically determine the supportable asset baseline, 2) automatically allocate supportable assets to unit level WRSK and BLSS according to unit priorities established by Air Staff, 3) automatically load allocated levels to the units, and 4) link information to the budget execution process.

COMPLETED PROJECT

Project Number: 88-3-016

Title: Impact of Implementing Dyna-METRIC to Compute War Readiness Spares Kits (WRSK) Requirements

Project Manager: Capt Tim Sakulich, MMISA, AUTOVON 787-4139

Project Sponsor: HQ USAF/LEXW, HQ AFLC/MMM

Synopsis: In Jan 88, the Air Force approved using Dyna-METRIC to compute WRSK requirements for all weapon systems. Dyna-METRIC is better than the previous system because it uses an aircraft availability objective function and it considers indentures. In Mar 88, AFLC implemented Dyna-METRIC in the Weapon System Management Information System Requirements/Execution Availability Logistics Module (WSMIS/REALM). The F-15, F-16, and F-111 were the first weapon systems to use the new computation. In our study of these three weapon systems, we showed the Dyna-METRIC computed kits provide equal or better combat capability than the previous systems while reducing the gross buy WRSK requirements by more than $210 million. The reductions ranged from $2.2 to $13.8 million per remove-repair-replace (RRR) kit. Furthermore, the new Dyna-METRIC kits contained 14.8 percent fewer units of stock when compared to the previous system. The Air Force now computes all WRSK and Base Level Self-Sufficiency Spares (BLSS) kits using Dyna-METRIC.

COMPLETED PROJECT

Project Number: 89-3-001

Title: Aircraft Battle Damage Repair (ABDR) Data Analysis

Project Manager: 2Lt R. "Mac" Blythe, MMISA, AUTOVON 787-5269

Project Sponsor: HQ AFLC/MM

Synopsis: The USAF has no current real war data of its own to accurately predict aircraft attrition and ABDR potential. We have access to the Israeli Air Force's database containing data acquired during the Yom Kippur War. We analyzed this database to provide useful data and statistics to HQ TAC/DR and HQ AFLC/MA who are involved in the management of the USAF's ABDR program. We had three noteworthy conclusions. First, the average maintenance actions per day doubled from peacetime to wartime; however, the maintenance actions per flying hour halved going into war. Second, even though battle damage attributable components were a very small percentage of the entire wartime maintenance actions, they required a very large percentage of the overall repair time. Third, ABDR was a significant sortie generator.

PROJECT PROPOSAL

Title: Computing War Readiness Materiel (WRM) Requirements Considering Available Assets

Project Sponsor: HQ USAF/LEYS

Problem Statement/Mission Impact: The AF may not be computing the lowest net (buy) requirements cost War Readiness Spares Kits (WRSK) and Base Level Self-Sufficiency Spares (BLSS). The current WRM requirements system computes the minimum cost mix of spares necessary to meet the direct support objective. Though the computation determines the minimum gross requirements cost, it doesn't consider available assets and therefore may not compute the lowest net (buy) requirement cost. We need to determine the feasibility and impact of computing WRSK and BLSS requirements considering available assets. The benefits could be significant. Analysis for the peacetime Aircraft Availability Model shows computing requirements using asset balances reduces the peacetime (buy) requirements cost by $318 million.

PROJECT PROPOSAL

Title: BULL RIDER Data Analysis

Project Sponsor: HQ AFLC/MM

Problem Statement/Mission Impact: BULL Rider was a SAC exercise to test the ability of the B-52 War Readiness Spares Kit (WRSK) to meet its wartime tasking. We have access to the logistics data collected during 30-day exercise and need to analyze the data to determine ways to improve the computation of B-52 WRSK.

PROJECT PROPOSAL

Title: VOLANT CAPE Data Analysis

Project Sponsor: HQ AFLC/MM

Problem Statement/Mission Impact: VOLANT Cape was a MAC exercise conducted at Little Rock AFB, AR to test the ability of current C-130 War Readiness Spares Kit (WRSK) to support a wartime tasking. We have access to the logistics data collected during the 30-day exercise and need to analyze this data to determine ways to improve the computation of C-130 WRSK.

ITEM MANAGEMENT

In the past, most of our analysis projects concentrated on improving the different requirement systems. We have now added a new category of projects which will specifically deal with item management. The objectives of these projects will be to develop tools or modernize processes so the item managers can perform their jobs more efficiently and more accurately.

We are currently studying two issues in the item management area. We are working jointly with HQ MAC in trying to incorporate their needs into the standard AF Critical Item Program (AFCIP). In doing so, we can decrease the manual workload being done by the item manger and let the computer do most of the work to identify critical items. We're also studying ways to improve the Supportability Analysis, Forecasting and Evaluation (SAFE) Problem Indicators Report currently part of the Weapon System Management Information System (WSMIS). This tool was developed several years ago and incorporated into WSMIS prior to the AF approval of the current AFCIP. Our project will examine SAFE to ensure it is consistent with AFCIP management.

Our focus in these studies, as well as future studies in the item management category, will be the policies and tools used in the basic item management function. Managing thousands of items is difficult, we need to ensure item managers have the right capabilities to do the job effectively. We expect this analysis area to grow in the future.

PROJECT PLAN

Project Number: 89-4-001 (previous project number 891-25-001)

Title: Update of SAFE Problem Indicators Report

Project Manager: Ms Dyann Beatty, HQ AFLC/MMISA, AUTOVON 787-5289

Project Sponsor: HQ AFLC/MMIL

AFLC OPR: HQ AFLC/MMIL

Problem Statement: The Weapon System Management Information System (WSMIS) Get Well Assessment Module (GWAM) includes a Problem Indicator Report for recoverable items where this report "TILTs", or flags, items whose fill rates fall below 85 percent. The fill rate used in this report is not consistent with the approved Air Force Critical Item Program (AFCIP) selection criteria, which focus on weapon system support impacts. The inconsistency in these two programs may focus management attention on the wrong set of items and result in inefficient use of resources.

Project Objectives:

1. Review accuracy of WSMIS Problem Indicator "TILTs" to identify items causing weapon system support problems.

2. Determine the impact of incorrectly identifying problem items.

3. Recommend a new WSMIS report available to ALCs and MAJCOMs.

Technical Approach: Review data within current WSMIS system to assess validity of "TILT" criterion. Identify cases where critical item data differs from TILTed data. Devise a new report consistent with AFCIP and make it available to ALCs and MAJCOMs.

Anticipated Mission Impact: Improvement to critical item management by ALCs and MAJCOMs improving weapon system availability.

Estimated Completion Date: Sep 89

PROJECT PLAN

Project Number: 89-4-002

Title: HQ MAC Critical Item Selection Criteria

Project Manager: Mr Mark Gaetano, MMISA, AUTOVON 787-5270

Project Sponsor: HQ AFLC/MMIL

AFLC OPR: HQ AFLC/MMILC

Problem Statement: HQ MAC is not satisfied with their current critical item selection criteria. We need to address their dissatisfaction and recommend alternative selection criteria.

Project Objectives:

1. Document the HQ MAC critical item selection criteria and address their concerns.

2. Develop and document alternative critical item selection criteria.

Technical Approach: Identify and document the HQ MAC critical item selection criteria. Analyze HQ MAC concerns and requirements. Recommend alternative selection criteria.

Anticipated Mission Impact: Critical item selection criteria will improve support to MAC weapon systems by indentifying the right set of items for increased management attention.

Estimated Completion Date: Sep 89

PROJECT PROPOSAL

Title: Field Repairable (XF3) Depot Repair Prototype

Project Sponsor: HQ AFLC/MMIL

Problem Statement/Mission: This study was prompted by an GAO audit report and HQ USAF and HQ AFLC IGs. The audit hypothesized that millions of dollars in new procurement could be avoided by repairing more XF3 assets at the depot. We need to analyze the quarterly data received by the OPR and recommend improvements.

PROJECT PROPOSAL

Title: Depot Repair of General Support Division (GSD) XF3 Items

Project Sponsor: HQ AFLC/MMIL

Problem Statement/Mission Impact: An Air Force IG report cited cases where both the depot and bases were not repairing field level repairable items. As a result, the Air Force initiated a moratorium on the disposal of all assets including reparable XF3 items. The centers have retained the XF3 items generated from the depot repair lines. A previous MMIS (formerly MMMA) study developed procedures for System Support Division (SSD) items. We now need to develop procedures for General Support Division (GSD) items.

PROJECT PROPOSAL

Title: Non-Credit Returns from Retail Activities

Project Sponsor: HQ AFLC/MMIII

Problem Statement/Mission Impact: Current retention policy requires assets applicable to active weapon systems/end items be retained in the inventory. Retail activities retain these assets up to 30-39 months without a demand. After this time, the assets are transferred to the depot for retention. It may not always be cost effective to ship the item back to the depot if the transportation costs exceed the value of the item. We need to determine an economic cutoff for retail assets to be returned to the depot versus being sent to disposal.

DROPPED PROJECT

Title: Identification and Analysis of Carcass Long Assets in the Reparable Item Movement Control System (RIMCS)

Reason: The Air Force Logistics Management Center (AFLMC) is currently doing a similar study. Instead of duplicating efforts, we will assist the AFLMC in their RIMCS project.

DROPPED PROJECT

Project Number: 881-65-011

Title: Depot Repair of Field Generated Reparable XF3 Items

Reason: The policy OPR stated that many bases have as great of repair capability as the depot for these items. If an item can not be repaired at the base, then it probably wouldn't be economical to send it to the depot even though there is a world-wide requirement. With the current shortfall of second destination transportation (SDT) funds we felt it inappropriate to concentrate efforts on a project that would increase SDT requirements, without a clear potential for realizing benefits of repair for these items.

FINANCIAL MANAGEMENT

The Directorate of Financial Management (MMM) has the responsibility for managing the budget for Aircraft Procurement follow-on support, Missile Procurement follow-on support, Other Procurement follow-on support, Depot Repair and Modifications (Dep Rep/Mod) support, Stock Fund--Systems Support Division (SSD), and Stock Fund--General Support Division (GSD), Interim Contractor Support and Contractor Logistics Support (ICS/CLS), and Modifications (after Program Management Responsibility Transfer). The Directorate prepares, presents, defends, accepts, and executes the budgets for the above categories totalling over $15 billion annually. In a given year, most of the financial managers oversee three annually awarded budget programs and, concurrently plan for seven to nine year's worth of annual budgets via the Program Objective Memorandum (POM) product sent to the Air Staff and Congress. Analytical support is vital to the success of these functions.

Our analysts are currently examining the following budget areas: POM forecasting for aircraft replenishment spares, aircraft initial spares, and Dep Rep/Mod; budgeting processes for Aircraft and Missile Initial Spares, SSD, Dep Rep/Mod, and ICS/CLS. We are also completing documentation to automate budget program tracking previously provided to the financial managers by MMISA.

In the past year, we have completed several projects which have aided the financial management community. We have defined and developed the Dep Rep/Mod Indicator data base. We have mapped out the "drivers" (relevant elements) in the Spares Management Improvement Program. These projects have served to identify key inputs to budget management decisions for repair support and for on hand inventory assessment. We documented all the analysis processes and programming which support the Air Logistics Early Requirements Technique (ALERT), an aircraft replenishment spares POM forecasting model. The ALERT performs a POM forecast for the Air Force replenishment spares budget, which totals over $2 billion annually. We have established the reliability of the aircraft initial spares budgeting and POM factors, enhancing the credibility of a budget which totals over $1 billion annually. We developed a means to track the historical behavior of budget program execution. This tracking method has been approved by the HQ AFLC Budget Execution Process Action Team. The team has instructed the Air Logistics Centers' budget program managers to use this model in developing their budget execution obligation forecasts.

Our analysts perform extensive research on policies and methodologies, work hand-in-hand with the budget program managers, and provide extensive analysis and programming support to do their work. The keys to progress in the area of budget research support lie in developing better accessibility to data, establishing a good comradery between the analyst and the user, and ensuring our analysis products meet the budget program manager's needs.

PROJECT PLAN

Project Number: 88-5-008

Title: Depot Repair and Modification (Dep Rep/Mod) Requirement Analysis and Validation

Project Manager: Capt Alan Closson, MMISA, AUTOVON 787-5289

Project Sponsor: HQ AFLC/MMM

AFLC OPR: HQ AFLC/MMMO

Problem Statement: The Air Force Logistics Command (AFLC) needs to determine the causes of major changes in the $3B annual Dep Rep/Mod exchangeable requirement over time.

Project Objectives:

1. Identify the reasons for the large variations in the Dep Rep/Mod exchangeable requirement.

2. Recommend changes to current systems and/or policies to reduce these fluctuations if appropriate.

Technical Approach: We will identify major changes in the Dep Rep/Mod exchangeable requirement from one forecast to another using the exchangeable transition statements and ALC budget submission brochures.

Anticipated Mission Impact: This analysis will yield insight into the reasons for the changes in the level of the stated requirement over time and should result in the identification of both systemic and policy reasons for the changes in the Dep Rep/Mod exchangeable requirement.

Estimated Completion Date: Sep 89

PROJECT PLAN

Project Number: 89-5-007

Title: Transfer of Budget Funds Status to Requirements Data Bank (RDB)

Project Manager: Mr Larry Collins, MMISA, AUTOVON 787-5314

Project Sponsor: HQ AFLC/MMMC

Problem Statement: Budget Program (BP) managers use the D085 Funds Status Reports to track over $10B in funds for all spares, modifications and support equipment. The current reports are produced on an ad hoc basis and require manual processing to produce. We need to transfer these reports to the Requirements Data Base (RDB) in automated format.

Project Objectives:

1. Document the funds status reporting system for transfer to the Requirements Data Base (RDB) in automated format.

2. Provide for upgraded capability.

Technical Approach: Document the process of D085 funds status. Task RDB to simulate process of funds status tracking currently provided in the D085. Specifically, develop an RDB requirement to produce seventeen pre-formatted reports which include the data for funds status and additional PPBS data as requested by the users (budget program managers).

Anticipated Mission Impact: Increase capability of user. Will free up personnel for other jobs and provide greater flexibility and continuity in funds tracking support.

Estimated Completion Date: Jul 89

PROJECT PLAN

Project Number: 89-5-008 (previous project number 881-85-005)

Title: Analytical Review of Initial Spares Budget Estimating Models

Project Manager: Ms Adrienne Rexroad, MMISA, AUTOVON 787-5340

Project Sponsors: HQ AFLC, HQ AFSC

AFLC OPR: HQ AFLC/MMM

Problem Statement: Developing statistically-based initial spares budget estimates is difficult today due to a lack of extensive and reliable data. Therefore, the initial spares budget manager has had to rely solely on expert judgment to develop, prepare, and defend her estimates of a $700M budget program. We need to evaluate statistical methods from which to estimate initial spares in order to 1) determine if any of them are feasible to use and 2) reject the methods (if infeasible) and develop our own statistical approach to estimating initial spares budgets.

Project Objectives:

1. To evaluate each study approach for statistical viability.

2. To evaluate each study approach for possible use in developing initial spares budgets.

3. Recommend one or more of the approaches for estimating the initial spares budget update for FY91 in Sep 89.

Technical Approach: With assistance from the BP16 program manager, we'll determine if there is an algorithm available to test the study methodology and simulate an initial spares budget for FY88 using the algorithm. Next, we'll compare the simulated budget to the prepared budget. Then, we'll decide whether each study and study methodology are acceptable for developing an aircraft initial spares budget.

Anticipated Mission Impact: This review will provide more insight and more standardization for the $700M initial spares budgeting process. AFLC/MMM can then more effectively defend audits and identify the impacts of budget reprogramming.

Estimated Completion Date: Jul 89

PROJECT PLAN

Project Number: 89-5-009

Title: Modifications to the Air Logistics Early Requirements Technique (ALERT) Forecasting Model for Depot Repair and Modifications (Dep Rep/Mod) POM Forecasts

Project Manager: Capt Al Closson, MMISA, AUTOVON 787-5249

MMIS Team Members: Mr Larry Collins, MMISA, AUTOVON 787-5314
Mr Rob Lucas, MMISA, AUTOVON 787-5249
Ms Adrienne Rexroad, MMISA, AUTOVON 787-5340

Project Sponsor: HQ AFLC/MMM

AFLC OPRs: LOC ATM/MMM
HQ AFLC/MMMOD

Problem Statement: We need to forecast POM requirements for Depot Repair and Modification (Dep Rep/Mod) for exchangeable items, a $3B annual budget.

Problem Objectives:

1. Determine if ALERT's methodology can be modified to produce a total Dep Rep/Mod requirement and forecasts by Element of Expense Investment Code (EEIC).

2. Validate the forecasting techniques by comparing actual obligations to estimated obligations.

3. Document the methodology for incorporation in the Requirements Data Bank PPBS subproject.

Technical Approach: Analysis will focus on identifying and introducing, or eliminating forecasting approaches to the current ALERT model to determine the total exchangeable Dep Rep/Mod requirement. Validation of the model will be against the Central Management of Depot Level Maintenance (G035B) System.

Anticipated Mission Impact: Provides a foundation for more stable budget submissions for the $3B annual Dep Rep/Mod budget requirements.

Estimated Completion Date: Nov 89

PROJECT PLAN

Project Number: 89-5-010 (previous project number 881-85-006)

Title: Computation of the Production Aircraft Initial Spares POM Factor

Project Manager: Ms Adrienne Rexroad, MMISA, AUTOVON 787-5340

Project Sponsor: HQ AFLC, HQ AFSC

AFLC OPR: HQ AFLC/MMM

Problem Statement: Currently, AFLC uses a set of production aircraft initial spares (PAIS) budgeting factors by group for tactical systems (12-15% of flyaway cost), airlift systems (10% of flyaway cost), and pipeline (7% of flyaway cost) to project initial spares budget requirements. This budget amounts to $700M annually. We need to validate these factors or determine what factor values would be more appropriate. Also, we plan to develop a factor to project initial spares budget requirements for strategic systems.

Project Objectives:

1. To determine if the current PAIS factors are accurate within a statistically reasonable range.

2. If any of the factors are not accurate, determine and propose an updated factor or set of factors.

3. Determine statistical "quality limits" about the factors to assist in determining when the factor should be re-evaluated.

Technical Approach: With the assistance of the BP16 program manager, we will use the budget program data history to determine the overall ratio of BP16 funding applied to production aircraft program decision packages to the overall BP10 budget. Then, we'll use the appropriate forecasting methodology to estimate the PAIS factor. The factor estimation approach must be able to withstand independent reviews and approximate the requirement.

Anticipated Mission Impact: Credible and timely PAIS budget factors will improve logistics support and readiness for the Air Force while providing a consistent framework for initial spares factors review by the Air Staff, auditors, and DOD.

Estimated Completion Date: Jul 89

PROJECT PLAN

Project Number: 89-5-011 (previous project number 881-85-003)

Title: Validation of BP16 Production Aircraft Initial Spares Budget Factor

Project Manager: Mr John Fitzgerald, MMISA, AUTOVON 787-5323

MMIS Team Member: Mr Larry Collins, MMISA, AUTOVON 787-5314

Project Sponsor: HQ AFLC/MMMC

AFLC OPR: HQ AFLC/MMMC

Problem Statement: Currently the Air Force forecasts aircraft initial spares (BP16) funding requirements based on a percent of the flyaway cost for new production airframes. The current factor of seven percent is applied to full rate production (after the first two years of initial procurement). The Air Force needs to validate the current factor and, if necessary, develop new factors based on aircraft mission type.

Project Objectives:

1. Validate the current seven percent factor used for BP16 POM projections of full rate production.

2. Determine if reasonable factors can be built for aircraft mission or commodity groups.

3. Recommend improvements to the current system as appropriate.

Technical Approach: Use requirements data for currently deployed weapon systems to compare a system in acquisition that uses the factor estimate approach. Estimate a flyaway cost factor for these currently fielded systems using D041 data to estimate actual pipeline costs. The "per aircraft" aggregate pipeline support cost will be compared to the airframe cost to simulate the budget factor.

Anticipated Mission Impact: Better weapon system initial spares requirements forecasting and improved budget submission credibility.

Estimated Completion Date: Jul 89

PROJECT PLAN

Project Number: 89-5-012 (previous project number 881-85-005)

Title: Estimate of Initial Spares Requirements Factor for BP26

Project Manager: Mr Rob Lucas, MMISA, AUTOVON 787-5249

Project Sponsor: HQ AFLC/MMMC

AFLC OPR: HQ AFLC/MMMCS

Problem Statement: The Air Force uses projection factors to estimate initial spares requirements (BP26) for missiles as a function of the end item cost. This amounts to an approzimate $79M budget annyally. The current factors need to be updated. We need to compute updated factors for airborne missiles, peculiar support equipment, and for training equipment.

Project Objectives:

1. Examine data sources for usable data from which initial spares requirements factors can be derived.

2. Determine factors for budgetary requirements.

3. Document the methodology for incorporation into the Requirements Data Bank PPBS subsystem.

Technical Approach: Research Logistics Support Analysis Record (LSAR) and H057 missile data for usable data from which initial spares factors can be derived. Collect the data and conduct analysis to derive the appropriate factors. Factors will be derived in the following order: first, airborne missiles; second, peculiar support equipment; third, training equipment; last, modifications and documentation.

Anticipated Mission Impact: More accurate initial spares missile factors, a more credible methodology to defend initial spares requirements, and documented procedures as a framework for future analysis.

Estimated Completion Date: Sep 89

PROJECT PLAN

Project Number: 89-5-014

Title: Transfer of Command Flying Hour Analysis Reports To Requirements Data Bank (RDB)

Project Manager: Mr Larry Collins, MMISA, AUTOVON 787-5314

Project Sponsor: HQ AFLC/MMMOD

Problem Statement: Dep Rep/Mod budget program managers need Aircraft/Engine flying hour reports produced twice yearly. These reports currently run on a Cyber computer, which is being phased out. Conversion to RDB must be accomplished before Cyber computer inactivated. Furthermore the current report requires manual effort to compile the data and run. We need to automate this report.

Project Objective:

1. Document the flying hour report processing for conversion to RDB.

Technical Approach: Delineate flying hour report processing in such a manner as to allow conversion to RDB. The current data is summarized by mission-design-series (MDS) and type-mission-series (TMS) level.

Anticipated Mission Impact: Provide for continuity of information, and prevent the manual effort required to produce the report.

Estimated Completion Date: Jul 89

PROJECT PLAN

Project Number: 89-5-015

Title: Systems Support Division (SSD) Analysis

Project Manager: Mr Mark Gaetano, MMISA, Autovon 787-5270

Project Sponsor: HQ AFLC/MMMS

Problem Statement: The Systems Support Division's inventory levels have grown considerably. This gives the impression we are buying the wrong items and therefore not providing maximum support for the available dollars. We need to determine why the inventory levels are increasing.

Project Objectives:

1. Gain a better understanding of how the system defines 'long supply'.

2. Explain some of the reasons why inventory levels have increased.

3. Document our findings for future analysis projects.

Technical Approach: Most of the analysis will be done using actual EOQ data from the Air Logistics Centers (ALCs). We will also use products such as the Nonrecoverable Central Secondary Item Stratification (CSIS) Analysis report to verify our results. We will examine the items with excess inventory to determine if they have any common characteristics.

Anticipated Mission Impact: The future SSD budget is partially based on past execution of previous budgets. Growing long supply inventories make it difficult to justify future funding. We need to explain the causes of the long supply to ensure proper financial support for the future.

Estimated Completion Date: Aug 89

COMPLETED PROJECT

Project Number: 87-5-003 (previous project number 871-85-003)

Title: Air Logistics Early Requirements Technique (ALERT) FY92-97 Program Objective Memorandum (POM) Forecasts

Project Manager: Mr Rob Lucas, MMISA, AUTOVON 787-5249

Project Sponsor: HQ AFLC/MMM

Synopsis: The ALERT model has been used by the Air Force Logistics Command since 1984 to project the BP15 aircraft peacetime spares Program Objective Memorandum (POM) requirement. ALERT is the only BP15 POM forecasting approach sanctioned by Air Staff. The following table shows the ALERT estimates for the total BP15 budget for the FY92-FY97 POM.

FY92	FY93	FY94	FY95	FY96	FY97
2442.9M	2506.7M	2566.9M	2608.1M	2665.1M	2719.3M

ALERT uses 16 individual weapon system regression equations to develop each fiscal year's BP15 estimate by weapon system. These individual forecasts are then added together to develop the Air Force total BP15 POM forecast.

COMPLETED PROJECT

Project Number: 89-5-001

Title: PPBS SUBPROJECT 5

Project Manager: Mr Mark Gaetano, MMISA, AUTOVON 787-5270

Project Sponsor: HQ AFLC/MMIS

Synopsis: We established an 'analysis region' on the Requirements Data Bank (RDB) computer. We first identified the data needed for our analysis and then loaded the initial data bases on DASD for quick and easy access. Along with sufficient disk storage, the RDB provides access to a tape management system. This will allow the analysts to keep an archive of data sets and also effectively manage the limited disk storage. We also installed several software packages to assist the analysts, including FORTRAN, COBOL, Pascal, SIMSCRIPT, Base SAS and SAS ETS. In addition, we use ROSCOE, an online program development facility, which accesses and executes all system support software functions. As further capabilities are needed, the analysis region can be upgraded to contain additional software packages. A Capabilities Guidelines booklet has been developed to assist analysts by giving detailed information on software capabilities, tape management, disk management and other procedures.

COMPLETED PROJECT

Project Number: 89-5-002

Title: Transfer of the Air Logistics Early Requirements Technique (ALERT) Forecasting Model from the CREATE Computer System to the Requirements Data Bank (RDB) Computer System.

Project Manager: Mr Rob Lucas, MMISA, AUTOVON 787-5249

Project Sponsor: HQ AFLC/MMM

Synopsis: We successfully transferred the ALERT model from the CREATE computer to the RDB computer. We accomplished this effort to improve the processing time in running the ALERT model. We transferred the ALERT data base with no significant problems. When we finished reprogramming the ALERT model in the SAS programming language, we validated the model by rerunning the ALERT model for the FY90-94 BP15 POM forecasts as was done on the CREATE model last year. We found the variations between the two models were statistically insignificant.

COMPLETED PROJECT

Project Number: 89-5-003

Title: Developing a User's Guide for the Air Logistics Early Requirements Technique (ALERT) Forecasting Model

Project Manager: Mr Rob Lucas, MMISA, AUTOVON 787-5249

Project Sponsor: HQ AFLC/MMM

Synopsis: AFLC has used the ALERT model to forecast Peacetime Operating Stock (POS) aircraft spares (BP15) Program Objective Memorandum (POM) requirements since 1984. The requirement exceeds $2.4 billion annually. Previously, no detailed procedures existed describing how to run the ALERT model. We developed a user's guide that provided the technical detail and procedures necessary to run ALERT.

COMPLETED PROJECT

Project Number: 89-5-005

Title: Budget Funds Status Reports Processing for FY88

Project Manager: Mr Larry Collins, MMISA, AUTOVON 787-5314

Project Sponsor: HQ AFLC/MMMC

Synopsis: MMM requires funds status reports produced weekly to track program execution. Seventeen different reports are required to give budget program (BP) managers timely information. These reports summarize initial, committed, and obligated (ICO) funds information. MMISA produced the Funds Status' Reports weekly for fiscal year 1988. We are currently trying to automate the reports in the Requirements Data Bank (RDB) (see active project number 89-5-007).

COMPLETED PROJECT

Project Number: 89-5-006

Title: Depot Repair and Modification (Dep Rep/Mod) Indicators Data Collection Procedures

Project Manager: Capt Alan Closson, HQ AFLC/MMIS, AUTOVON 787-5289

Project Sponsor: HQ AFLC/MMM

Synopsis: In FY88, AFLC experienced significant reductions in exchangeable repair funding. The budget program program has historically exceeded $3 billion annually. The result of the funds reduction was a shortfall in AFLC's exchangeable repair budget when we compare the level of funding to the statement of the exchangeable repair requirement. However, only extremely limited tools were available to determine the effects of Dep Rep/Mod exchangeable funds reductions. The Dep Rep/Mod indicators we established provide a method for showing the impact of changes in exchangeable Dep Rep/Mod funding on AFLC depots and operational bases. We recommended using the methods outlined in our final report to collect the data needed to construct the set of Dep Rep/Mod indicators. The indicators should be updated on a quarterly basis.

COMPLETED PROJECT

Project Number: 89-5-013

Title: Development of Standard Spares Projection Factors

Project Manager: Mr Rob Lucas, HQ AFLC/MMISA, AUTOVON 787-5249

Project Sponsor: HQ AFLC/MMMSS

Synopsis: In our analysis we attempted to update Systems Support Division (SSD) standard spares projection factors for estimating initial spares requirements for budgeting and funding purposes (currently with a net requirement over $126 million annually). The factors need updating to reflect initial provisioning for new weapon systems. We could not develop commodity based factors as found in AFLCR 67-7, Stock Fund Initial Spares Requirements, due to problems identified with data sources. As an alternative solution, we described the need to examine demand-based approaches to computing SSD.

PROJECT PROPOSAL

Title: WRSK/BLSS Modification Factor

Project Sponsor: HQ AFLC/MMMCS

Problem Statement/Mission Impact: We need a generic factor to apply to budgetary modification requirements to budget WRSK/BLSS dollars. This would be similar to the modification factor for initial spares. Anticipated benefits are better budget and POM submissions.

PROJECT PROPOSAL

Title: Evaluation of BP16 factor study data base

Project Sponsor: HQ AFLC/MM

Project Statement/Mission Impact: A recent validation of the BP16 factors showed them to be too high in comparison with execution performance. However, the historical data base used for the study does not account for acquisition dynamics such as weapon system acquisition stage or commonality of one production system to another. We will attempt to adjust the data to account for these dynamics and compute revised factor estimates. These factors assist in developing a BP16 budget of over $700M annually.

PROJECT PROPOSAL

Title: Development of Systems Support Division (SSD) Delivery Projections

Project Sponsor: HQ AFLC/MMMSS

Problem Statement/Mission Impact: AFLC needs to review the SSD delivery percentages. These percentages are used to project the delivery of initiated SSD requirements across the delivery horizon (five years in length). This inventory amounts to $1.9B annually. A breakout of these percentages is required by the following funding categories: by operating, inventory augmentation, WRM, and total.

PROJECT PROPOSAL

Title: Final Validation of AFLC Form 166 for BP16

Project Sponsor: HQ AFLC/MM

Project Statement/Mission Impact: We recently recommended the use of the AFLC Form 166 for developing demand-based BP16 estimates (over $700M budget annually) for use in the FY92 Budget Estimate Submission (BES). We will supply analyst support to a "dry run" of a HQ-wide budgeting exercise which will occur in late 1989/early 1990. We intend to compare the results of this simulated budget against previous budgets and execution performance to determine the appropriateness of the results.

PROJECT PROPOSAL

Title: Simulation and Comparison of Aircraft Initial Spares Models

Project Sponsor: HQ AFLC/MM

Project Statement/Mission Impact: We recently completed a project where we recommended further study of two models which can potentially be used to estimate the aircraft initial spares budget (BP16), which totals over $700M annually. These are the AFALC simultaneous equation method and the RAND log-linear regression approach for estimating both initial and replenishment investment spares. Both of these models require extensive data updating in order to be considered for estimating the BP16 budget. We intend to enhance their existing data bases and develop new model estimates for BP16. These results will then be compared against previous budget and execution performance in order to determine the appropriateness of the results.

PROJECT PROPOSAL

Title: Interim Contract Support (ICS)/Contract Logistic Support (CLS) Requirements Computation Methodology

Project Sponsor: HQ AFLC/MMMOM

Problem Statement/Mission Impact: AFLC needs to develop a standard computation methodology for ICS/CLS funding requirements. Some program administrators use "gut feel" based on the contract, while others use flying hours plus or minus ten percent as the basis for requirements. In addition, the methodology should include a "what if" function to estimate the dollar increase in ICS requirements given a potential cut in support equipment funding and other variables that delay the establishment of organic capability. The analysis will enhance the credibility of ICS funding requirements and assist in fulfilling the tasking to develop a standard computational methodology.

PROJECT PROPOSAL

Title: Enhancements to the Air Logistics Early Requirements Technique (ALERT) Forecasting Model for Aircraft Spares (BP15) POM Forecasts

Project Sponsor: HQ AFLC/MMMCS

Problem Statement/Mission Impact: AFLC uses ALERT to forecast peacetime operation stock (POS) aircraft replenishment spares (BP15) POM requirements, exceeding $2.4 billion annually. ALERT is a macro model that forecasts requirements by weapon system and aggregates them for a total BP15 POS POM forecast. FY87 was the first year we could validate an ALERT forecast. ALERT's BP15 POM forecast was within two percent of the actual first year obligation for program year (PY) 87 and fiscal year (FY) 87. However, the forecasts by individual weapon system were much less accurate (as high as 280 percent over the actual requirement in the case of the B-52). ALERT's forecasting at the individual weapon system level needs to be improved.

PROJECT PROPOSAL

Title: Systems Support Division (SSD) Initial Spares Provisioning

Project Sponsor: HQ AFLC/MMMSS

Problem Statement/Mission Impact: SSD budget managers use projection factors to estimate initial spares consumable requirements for budgeting and funding purposes. We need to examine a demand-based approach to determining initial spares provisioning requirements for force modernization (introducing new weapon systems to the Air Force inventory), weapon system modifications, any follow-on support (provisioning for building current weapon systems inventories), and common item support.

PROJECT PROPOSAL

Title: Projected Aircraft/Missile Modification Slippages

Project Sponsor: HQ AFLC/MMMOD

Problem Statement/Mission Impact: Determine by Mission Design Series (MDS) what percent of aircraft and missile modification (mod) installations will slip in a given year. Mods can slip due to funding cuts made by BP1100 for kit buys, availability of aircraft, contractor kit delivery slippages due to technical problems, part problems, ECP changes, etc. G079 is the primary source of data. If mod slippage is known, we could decrease the BP3400 mod installation requirements/funds and reprogram those funds to other critical requirements.

PROJECT PROPOSAL

Title: Air Logistics Early Requirements Technique (ALERT) Forecasting Model Run for FY93 POM

Project Sponsor: HQ AFLC/MMMCS

Problem Statement/Mission Impact: The ALERT model is used to create the baseline for the BP15 POM submission used by AFLC. We need to run the ALERT model for the FY93 POM submission. The model yields more accurate requirement projections.

DROPPED PROJECT

Project Number: 89-5-015

Title: Development of Life Cycle Cost Model for Economic/Acquisition Plans for BP15 100 Percent Replenishment/Preferred Spares

Reason: The requirement for developing the model was satisfied by adopting the Cost Analysis and Strategy Assessment (CASA) life cycle cost model for developing the economic/acquisition plans.

DROPPED PROJECT

Project Number: 871-85-008

Title: Obligation Forecasting

Reason: Project OPR responsibility transferred to HQ AFLC/MMMC.

DROPPED PROJECT

Project Number: 881-65-007

Title: Depot Purchased Equipment Maintenance (DPEM) Impact Estimation

Reason: HQ USAF/LEX transferred OPR responsibility to LMI and RAND.

MANAGEMENT INFORMATION SYSTEMS (MIS) APPLICATIONS

Regardless of how we improve requirements data and models, there is a continuing need to collect, store, and manipulate data to help make financial decisions and resolve policy issues quickly and accurately. This requires acquisition and implementation of modern office information systems' hardware and software. It also involves developing more efficient information recording and coordinating among interdependent decision making activities. This implies development of "intelligent work stations", inter-and intra-office electro mail, office networking, local area networking, and building efficient, vertically integrated data sharing/retrieval software (i.e., micro-to-mainframe connectivity). We have a number of projects designed to enhance office productivity.

During the past year, a number of projects have been completed that directly support the user. One project, MMOIS Support and Administration has been expanded to include all MM personnel who have requested an account. We have approximately 350 active users. In addition, the Suspense Data Base has been modified several times over the past year to meet the changing needs of the MM community. In the area of training, courses in PC Literacy, Air Force Chart, Enable Word Processing, Spreadsheet and Data Base have been taught as well as the use of our E-Mail system.

Currently, we continue to increase our computer technology in an effort to provide our users with more and better capabilities to perform their job. We're taking on more individual program development to permit our users to automate their jobs on the PC. This is done by developing software programs that accommodate data bases as well as calculate manipulative capabilities through the computer.

Our goal is to provide our user's the hardware, software and training they need to perform their job in the most efficient manner.

PROJECT PLAN

Project Number: 89-6-001

Title: Roadmap for MM Data Systems

Project Manager: Ms Patricia Moore, MMISS, AUTOVON 787-5291

Project Sponsor: HQ AFLC/MM

Problem Statement: Not all MM Data Systems are currently included in the Logistics Management Systems (LMS) Modernization Programs. Several data systems have "slipped through the cracks" and need improvement or replacement - e.g. D220 and G064. We need a system to keep track of the MM data systems and have visibility of their current and future status.

Project Objectives:

1. To provide and maintain a current, consolidated, comprehensive overview of MM data systems located in one place and easily accessible by our MM corporate structure.

2. This overview will be called the MM RODEO - the MM Roadmap Overview of DSD Enhancements and Overhauls.

Technical Approach: Divide the MM data systems into categories and provide current information on OPR, SC developer and/or LMS program, LMSC/SPO, MM Tech Team and contractor POC. Identify future plans (including dissolution date), problems, impact assessments and "get well" strategies (if needed) for each data system via information provided by the OPRs. Consolidate this information and store on a MMMOIS data base, accessible for update by the OPR and review by our managers using their personal computers (PCs).

Anticipated Mission Impact: MM will have an easily accessible corporate planning and assessment tool for MM data systems. This visibility insures that problems can be identified and resolved in a timely manner so that MM business can continue to benefit from the information needed to perform our assigned tasks.

Estimated Completion Date: Nov 89

PROJECT PLAN

Project Number: 89-6-002

Title: Action Control Tracking System (ACTS)

Project Manager: Mr Patricia Moore, MMISS, AUTOVON 787-5291

Project Sponsor: HQ AFLC/MM

Problem Statement: MM managers and personnel need a mechanized system that is timely and easy to use to track functional area projects.

Project Objectives:

1. To provide MM personnel and managers with a mechanized system on the MMOIS computer to track action items.

2. To identify focal points for all assigned projects.

3. To provide current status of MM projects.

Technical Approach: To design and implement a menu-driven "shell" on the MMOIS computer and train managers to use this mechanized tracking system on the UNIX-based PLEXUS computers to support any project of their choice.

Anticipated Mission Impact: The ACTS system will allow managers and personnel to share information, to identify requirements, to provide project status at any time and to facilitate timely completion of any project that is placed on the system.

Estimated Completion Date: Dec 89

PROJECT PLAN

Project Number: 89-6-003

Title: Secretariat to MM Integrated Information System Senior Steering Group (MMIIS-SSG)

Project Manager: Ms Patricia Moore, MMISS, AUTOVON 787-5291

Project Sponsor: HQ AFLC/MM

Problem Statement: The MMIIS-SSG requires a working group to identify and research issues, to work action items, to schedule meetings, to coordinate the meeting agenda/participants and to prepare the minutes of each meeting.

Project Objectives:

1. To support the MMIIS-SSG objectives which include a corporate review group that will advocate MM LMS integration and current system needs.

2. To direct the MMIIS initiatives and provide acquisition support for MMIIS resources.

Technical Approach: To act as a working group in support of the MMIIS-SSG. Identify and research issues, work action items, schedule meetings, co-ordinate the meeting agenda and participants. To record/prepare/distribute minutes of each meeting and other duties as required.

Anticipated Mission Impact: To provide clout to MM's MMIIS architecture and roadmap for integrated computer resources in support of our AF mission.

Estimated Completion Date: Completed Annually

PROJECT PLAN

Project Number: 89-6-004

Title: Chair for MM's SuperUser Network

Project Manager: Ms Patricia Moore, MMISS, AUTOVON 787-5291

Project Sponsor: HQ AFLC/MM

Problem Statement: MM users need the ability to use their computer resources to better accomplish their assigned tasks.

Project Objectives:

1. To activate the SuperUser Network as an integral and excellent tool in MM's arsenal of computer resources.

2. To help MM users overcome the "learning curve" associated with new hardware/software.

3. To facilitate matching workload to computer capabilities.

4. To provide a co-located focal point for MM computer resource information/issues/concerns.

5. To represent MM users in defining requirements for additional training, tools and techniques.

Technical Approach: To identify SuperUsers for each MM division and organize, train and support the SuperUsers Network in HQ AFLC/MM.

Anticipated Mission Impact: MM users will have a human resource located in their work area, who has both computer knowledge and functional knowledge. The SuperUser knows how to utilize and optimally match the users' assigned tasks to their computer resources in order to do their jobs faster and better and identify any requirements that the users have for training or hard/software.

Estimated Completion Date: *Completed Annually*

PROJECT PLAN

Project Number: 89-6-005

Title: MMOIS Support and Administration

Project Manager: Mr Steve Sacks, MMISS, AUTOVON 787-5268

MMIS Team Member: Mr Greg Richardson, RCF Inc. Administrator, AUTOVON 787-5268

Project Sponsor: HQ AFLC/MM

AFLC OPR: HQ AFLC/MMIS

Problem Statement: The daily operations of the MMOIS require management decisions by an AFLC representative. The administration of the mini-computer system is handled by the contractor under guidance from AFLC personnel. Policies regarding user permissions, applications development, access control, etc., are determined under this project.

Project Objectives:

1. Increase utilization of MMOIS equipment (Plexus).
2. Develop planned applications for the software used in MMOIS.
3. Research future applications as required.
4. Develop applications as required: calendaring, project management, etc.
5. Expand the MMOIS to include all of the users in MM.

Technical Approach: Incremental growth is planned because of the unknown capacity of the machine. This will prevent us from overloading the machine. As applications are identified and researched, they will be developed and implemented as projects of their own.

Anticipated Mission Impact: Increased communications throughout MM with the increased use of electronic mail. Improved suspense tracking through the system that has been on line since June 1986. Other impacts are dependent on the applications developed and installed.

Estimated Completion Date: Completed Annually

PROJECT PLAN

Project Number: 89-6-006

Title: Admin Support for MM Training and Testing Resources

Project Manager: Mr Steve Sacks, MMISS, AUTOVON 787-5268

MMIS Team Member: Mr Richard Tillman, MMISS, AUTOVON 787-5268

Project Sponsor: HQ AFLC/MM

AFLC OPR: HQ AFLC/MMIS

Problem Statement: Need to provide administrative support for implementing the HQ AFLC/MMIS training projects.

Project Objective:

1. To provide the letters, sign up sheets, and scheduling of MM personnel so that they can best take advantage of the courses offered by MMIS.

Technical Approach: To prepare a schedule of courses offered in the two MM classrooms and notify the directorates of the classes offered and to provide a list of personnel wanting to take the specific courses, spread sheets will then be designed and provided in these courses. Class critiques will be issued and analyzed in addition to preparing the certificates of completion for all MM personnel.

Anticipated Mission Impact: A working knowledge of the Z-248 personal computer, its operating system, and various software such as WordPerfect, Chart, and ENABLE will increase HQ AFLC/MM productivity.

Estimated Completion Date: Completed Annually

PROJECT PLAN

Project Number: 89-6-007

Title: User Support for Computer Systems

Project Manager: Mr Steve Sacks, MMISS, AUTOVON 787-5268

MMIS Team Members: Mr Greg Richardson, RCF Inc., AUTOVON 787-5268
Mr Thomas Lewis, MMISS, AUTOVON 787-5268

Project Sponsor: HQ AFLC/MM

AFLC OPR: HQ AFLC/MMIS

Problem Statement: The Small Computer Tech Center cannot provide timely and efficient service to the Z-248s.

Project Objectives:

1. Increase the utilization of the Z-248s by reducing the user's time spent solving minor problems.

2. Minimize the downtime due to hardware failures by arranging service.

Technical Approach: On-call user support for the computers in HQ AFLC/MM. Try to help out and solve user problems. Phone in service calls as necessary.

Anticipated Mission Impact: Reduced downtime for our computers. Better utilization of the computer resources throughout HQ AFLC/MM.

Estimated Completion Date: Completed Annually

PROJECT PLAN

Project Number: 89-6-008

Title: Enable Training Class

Project Manager: Mr Steve Sacks, MMISS, AUTOVON 787-5268

MMIS Member: Mr Richard Tillman, MMISS, AUTOVON 787-5268

Project Sponsor: HQ AFLC/MM

AFLC OPR: HQ AFLC/MMIS

Problem Statement: Need to train the HQ AFLC/MM community (350 Z-248 users) on the use of Enable software.

Project Objective:

1. To provide the 350 MM Z-248 users with basic Enable literacy in three main areas; word processing, spreadsheet and data base management.

Technical Approach: To develop a course outline and training materials and to provide classroom instruction including one day of each of the following topics: Word processing, Spreadsheet and Data Base Management.

Anticipated Mission Impact: Full utilization of ENABLE package will improve productivity and timelines of work.

Estimated Completion Date: Completed Annually

PROJECT PLAN

Project Number: 89-06-009

Title: Interim Contractor Support (ICS) Data Automated Program

Project Manager: Mr Thomas Lewis, MMISS, AUTOVON 787-5268

MMIS Team Member: Ms Sheila Taylor, MMISS, AUTOVON 787-5268

Project Sponsor: HQ AFLC/MMIS

Problem Statement: To design an automated system for tracking changes in requirements and funding through the budget process and execution.

Project Objective:

1. To provide menus which list dollars obligated in the data base, requirements, funding, and obligations by weapon system, MAJCOM, and Major Force Program.

Technical Approach: To design a PC menu-driven program which will give MM personnel and managers a mechanized tracking system and to provide a data base to draw from for requirement computations.

Anticipated Mission Impact: By automating ICS functions, MM will benefit from its increased accuracy, productivity, and efficiency, while at the same time decrease manual workloads which will leave more time for management and decision making.

Estimated Completion Date: Jan 90

COMPLETED PROJECT

Project Number: 87-6-001

Title: "Pacer Frontier" Management Information System (MIS)

Project Manager: Mr Ron Frederickson, MMISS, AUTOVON 787-2591

Project Sponsors: HQ AFLC, HQ AFSC, HQ SPACE COM

Synopsis: All goals were accomplished for the MIS as proposed when the organization became manned upon initial startup. Planning for temporary facility MIS as well as programming for permanent facility, initial input of equipment (hardware and software) and Program Objective Memorandum were met to allow a flow of information for facility workload management.

COMPLETED PROJECT

Project Number: 87-6-002 (previous project number 871-55-002)

Title: Data Communications Technical Service Support

Project Manager: Mr Ron Frederickson, MMISS, AUTOVON 787-2591

Project Sponsor: HQ AFLC/MMIS

Synopsis: Due to the estimated cost ($500,000) of the contract to support this requirement, monies would solely depend on FY88 fallout. Those monies did not materialize. The contractor additionally lost his GSA contract being out bid on the upcoming year. Due to the funding shortage, several things occured:

1. Some ALC's had monies of their own they used within their own house to do some of the work that this contract would have covered and,

2. Some of the other requirements that would have been done under this contract were simply overcome by events due to time.

COMPLETED PROJECT

Project Number: 87-6-003 (previous project number 871-55-003)

Title: Microcomputers

Project Manager: Mr John Corrie, MMISS, AUTOVON 787-5287

Project Sponsor: HQ AFLC/MMIS

Synopsis: During the past year an inventory of assets has been accomplished. Some contractor and off site assets still remain to be identified. This is due to the continued reorganization in MM and new contractors being obtained. Each Directorate will be responsible for their assets, repair, LAN, etc., in the future.

COMPLETED PROJECT

Project Number: 87-6-004 (previous project number 871-55-006)

Title: MMOIS Support and Administration

Project Manager: Mr Steve Sacks, MMISS, AUTOVON 787-5268

Project Sponsor: HQ AFLC/MM

Synopsis: In addition to the normal day-to-day overseeing of the MMOIS, there have been some issues addressed as well as some additions to the MMOIS. These issues and additions include:

1. The MMOIS has been expanded to include all MM personnel who have requested an account. We have approximately 350 active users.
2. The Suspense Data Base has been modified several times over the last year to meet the changing needs of MM/MMM.
3. MMISS has looked into the acquisition of AT&T 3B2 equipment to host the MMOIS.
4. LAN (Local Area Network) Access. We increased access to the MMOIS by removing all direct connections to the OIS and replacing them with LAN connections. We now have a 6:1 user to port ratio as compared with the 21:1 user to port ratio we had before the increased LAN access was installed. This has made accessing the OIS much easier.
5. New Backup Procedures.
6. Phone Roster.
7. Password Change Program.

COMPLETED PROJECT

Project Number: 87-6-005 (previous project number 871-55-009)

Title: MMOIS Word Processing Standards Development

Project Manager: Mr Steve Sacks, MMISS, AUTOVON 787-5268

Project Sponsor: HQ AFLC/MMIS

Synopsis: Incompatibility of word processing software makes it difficult to transfer documents to and from secretaries. Currently, we are not able to type a document with one word processing package and give it to a secretary with a letter quality printer to get a printout. A procedure to convert an Enable Word Processing document to a Wordperfect document has been completed.

COMPLETED PROJECT

Project Number: 87-6-006 (previous project number 871-55-010)

Title: Materiel Management Z-Report

Project Manager: Mr Steve Sacks, MMISS, AUTOVON 787-5268

Project Sponsor: HQ AFLC/MMIS

Synopsis: Currently there is no means to communicate helpful hints, new applications, and future plans to the MM users of plexus and personal computers. There is a need to provide user support and system information to the user on a continual basis for the MM community. Since our first Z-Report, we have not published a second Z-Report. Current plans for the Z-Report are to put helpful information on the MMOIS (MM Office Information System) so that users can look at whenever they choose. This will eliminate the need for a hard copy of the Z-Report. Updates to the Z-Report will be done when articles of interest are found.

COMPLETED PROJECT

Project Number: 87-6-007 (previous project number 871-55-011)

Title: Admin Support for MMM Training and Testing Resources

Project Manager: Mr Steve Sacks, MMISS, AUTOVON 787-5268

Project Sponsor: HQ AFLC/MMIS

Synopsis: Need to provide administrative support for implementing the HQ AFLC/MMIS training projects. We have trained the following number of people:

PC Literacy - 147
AF Chart - 206
Enable Word Processor - 59
Enable Spread Sheet - 33
Enable Data Base - 33
E-Mail - 100

COMPLETED PROJECT

Project Number: 87-6-008 (previous project number 871-55-012)

Title: User Support for Computer Systems

Project Manager: Mr Steve Sacks, MMISS, AUTOVON 787-5268

Project Sponsor: HQ AFLC/MMIS

Synopsis: The Small Computer Tech Center cannot provide timely and efficient service to the Z-248s. The large number of Z-248s installed in HQ AFLC/MM in the last year requires effective user support to minimize the disruption caused by problems in software or hardware. MMISS serves as a service organization supporting all of MM. Our own problem resolution efforts are able to solve nearly all of the problems. During the past year, we have handled approximately 6000 user requests ranging from fixing computers and printers to acting as on-call consultants for various projects in MM. We have saved the MM community countless hours by helping them solve their computer problems in minutes instead of days and weeks.

COMPLETED PROJECT

Project Number: 87-6-009 (previous project number 871-55-014)

Title: Enable Training Class (Continuing Project)

Project Manager: Mr Steve Sacks, MMISS, AUTOVON 787-5268

Project Sponsor: HQ AFLC/MM

Synopsis: Need to train the HQ AFLC/MM community (250 Z-248 users) on the use of Enable software. Since 1987, we have trained the following number of people:

ENABLE Word Processing - 59
ENABLE Spread Sheet - 33
ENABLE Data Base - 33

In the last year, the MM community has increased it's computer literacy many times over. Because of MM's increased computer literacy, our focus has shifted from classroom teaching of ENABLE to on call user support of ENABLE. We will continue to teach ENABLE classes when resources are available.

COMPLETED PROJECT

Project Number: 87-6-010 (previous project number 871-55-015)

Title: HQ AFLC Z-248 Support for Repair

Project Manager: Mr John Corrie, MMISS, AUTOVON 787-5287

Project Sponsor: HQ AFLC/MMIS

Synopsis: An average of 45 calls a month are received. About 20 per month are found to be software and user caused errors. This is a savings of $18.00 per contractor call. It is suggested that a position be made to continue this support after the equipment control is decentralized, as special expertise is required for maximum benefits.

COMPLETED PROJECT

Project Number: 88-6-001 (previous project number 881-55-001)

Title: Roadmap for MM Data Systems

Project Manager: Ms Patty Moore, MMISS, AUTOVON 787-5291

Project Sponsor: HQ AFLC/MM

Synopsis: The information gathered for this project is available in hard copy. The transfer of this information into a computerized on-line data base is pending due to insufficient resources available on the MMOIS computer. The MMOIS management is waiting for funds to upgrade its current computer capabilities: hardware, software and processing power. Meanwhile, the MMOIS support personnel are scheduled for UNIX and C-language training so that this project can be programmed for the upgraded MMOIS computer as soon as funds are available.

COMPLETED PROJECT

Project Number: 88-6-002 (previous project number 881-55-002)

Title: Action Control Tracking System (ACTS)

Project Manager: Ms Patricia Moore, MMISS, AUTOVON 787-5291

Project Sponsor: HQ AFLC/MM

Synopsis: This project is pending due to insufficient resources available on the MM Office Information System (MMOIS) computer. The MMOIS management is waiting for funds to upgrade its current computer capabilities: hardware, software and processing power. Meanwhile, the MMOIS support personnel are scheduled for UNIX and C-language training so that this project can be programmed for the upgraded MMIOS as soon as funds are available.

COMPLETED PROJECT

Project Number: 88-6-003 (previous project number 881-55-003)

Title: Secretariat to MM Integrated Information System Senior Steering Group (MMIIS-SSG)

Project Manager: Ms Patricia Moore, MMISS, AUTOVON 787-5291

Project Sponsor: HQ AFLC/MM

Synopsis: The MMIIS-SSG, since its activation in November, 1987 has reviewed/resolved the following:

a. A one-day seminar was held 16 March 88 to provide a complete overview of all computer resources and LMS initiatives that affect MM users.
b. A briefing on "Unfreezing Current Data Systems" was held 20 May 1988.
c. SC/LMSC presented a briefing, 6 Oct 88, on "User Support System (USS) Future Direction" in response to MMIIS-SSG's concerns about SC's decision to disestablish USS as a major program and its impact on MM business.
d. A briefing on the design and cost of "LOC/MM Integrated Information Systems (LOC/MMIIS)" was presented on 1 December 88.
e. On 11 January 89, the MMIIS-SSG corporately ranked the unfunded HQ AFLC/MM and LOC FY89 O&M requirements.

COMPLETED PROJECT

Project Number: 88-6-004 (previous project number 881-55-004)

Title: Chair for MM's SuperUser Network

Project Manager: Ms Patricia Moore, MMISS, AUTOVON 787-5291

Project Sponsor: HQ AFLC/MM

Synopsis: The MM SuperUsers were appointed approximately one per MM division and were chartered by the MM Integrated Information Systems Senior Steering Group (MMIIS-SSG). A week-long "SuperUsers Fair" was held in Nov 87 to provide information and assistance to the MM users. The MM SuperUsers have provided computer information, troubles-shooting, and PC assistance to their respective users on a daily basis. They provide feedback on software and training needs of the users and have designed a user survey to periodically assess the computer needs of MM users. A "SuperUsers' Skills Profile" was identified for on-going training of the SuperUsers, however, training funds have been limited. Currently, the SuperUsers are handling the computer equipment in the MM realignment and will actively assist each user in accomplishing the transfer of their software/hardware.

PROJECT PROPOSAL

Title: Contract Logistics Support (CLS) Data Automated Program

Project Sponsor: HQ AFLC/MMM

Problem Statement/Mission Impact: To design an automated system for tracking changes in requirements and funding through the budget process and execution.

PROJECT PROPOSAL

Title: Breakout of Support Equipment Budget by Weapon System

Project Sponsor: HQ AFLC/MMM

Problem Statement/Mission Impact: To develop a program to combine DO39 and Requirements Data Bank data to produce a breakout of Support Equipment requirements into initial/replenish by Weapon System.

PROJECT PROPOSAL

Title: Budget Program Status on the Office Information System

Project Sponsor: HQ AFLC/MMM

Problem Statement/Mission Impact: To add a section to the Office Information System similar to the phone listing which allows specific Budget Program Managers to input program status and to allow everyone reading access.

DISTRIBUTION AND REPAIR IN VARIABLE ENVIRONMENTS (DRIVE)

The DRIVE model is a decision tool that helps define repair and distribution priorities for over 1.8 million Recoverable Items involving a repair budget which exceed $2 billion annually. Its purpose is to ensure that exchangeable items (LRUs and SRUs) are repaired and sent to the locations where they will be most beneficial in improving aircraft availability in both peace and war. DRIVE does this by considering the most recent asset status worldwide and relating it to the expected near-term peace and wartime flying requirements of specific weapon systems at individual operating locations worldwide. DRIVE also considers the relative importance of each weapon system in terms of an aircraft availability goal for each Base. Through a series of mathematical computations, the model uses this information to first determine what assets are needed at each location to provide the greatest chance of achieving the aircraft availability goals given the expected flying requirements. It then translates what's needed into specific depot repair priorities considering available repair resources so that the greatest increase in aircraft availability is achieved per hour of repair resource expended. Once assets are made serviceable, DRIVE identifies the location where each serviceable should be shipped to achieve the greatest improvement in aircraft availability.

Much has been accomplished during the past year to implement the DRIVE concept. A final report was completed that outlined the types of evaluation and analysis techniques needed to continually measure the performance of DRIVE. We also wrote a detailed Concept of Operations which outlines the current system, the DRIVE model, the procedures on how the Air Force will integrate DRIVE into both current and future systems, as well as its application to quarterly repair requirements, depot repair dollar allocation and bi-weekly maintenance activity. Furthermore, we established a DRIVE Functional Integration Office to orchestrate, monitor, and guide the Air Force's efforts in implementing the DRIVE process. Part of that effort involved developing an extensive marketing and education campaign to inform the Air Force about DRIVE. All Major Commands are now aware and totally approve of the concept.

On going and future efforts include: (1) analyzing how and determining what kind of information is required by DRIVE in a "wartime" environment; (2) investigating who will be authorized to have access to, as well as change, DRIVE related information; (3) investigating how repair times, flow times, workloading, etc. vary among different commodities within the depot repair facilities and; (4) exploring and identifying new and better sources of awaiting parts (AWP) data for DRIVE.

These efforts will lead to the successful implementation of DRIVE. Once implemented, AFLC can repair and allocate assets based on improvements in aircraft availability. Result - substantial improvement in wartime readiness and sustainability for every weapon system in the Air Force.

COMPLETED PROJECT

Project Number: 881-65-013

Title: Bi-Weekly DRIVE Repair Prioritization Functional Requirements Identification

Project Manager: Mr Robert Appelbaum, MMISD, AUTOVON 787-5248

Project Sponsor: HQ AFLC/MMIS

Synopsis: The functional requirement for the development of the DRIVE Bi-Weekly repair prioritization process outlines how DRIVE will be applied to the repair of exchangeable items in the Air Force inventory. This includes a discussion of data inputs, the differences between the quarterly and bi-weekly DRIVE processes and is included in the WSMIS/DRIVE Functional Description. This is now the Baseline for the System Design of WSMIS/DRIVE.

COMPLETED PROJECT

Project Number: 881-65-014

Title: Bi-Weekly DRIVE Asset Allocation Functional Requirement Identification

Project Manager: Mr Robert Appelbaum, MMISD, AUTOVON 787-5248

Project Sponsor: HQ AFLC/MMIS

Synopsis: The functional requirement for the development of the bi-weekly DRIVE asset allocation process outlines how DRIVE asset allocation decisions will be worked during phase one of DRIVE implementation. It describes how DRIVE will be identified to the item management communities and what will be done with the identified distribution priorities. This requirement is included in the DRIVE Functional Description. The DRIVE Phase 2 Functional Description will cover the requirement for automated asset allocation and will describe the DRIVE interface with the Stock Control and Distribution (SC&D) system, which becomes the AFLC method for distributing serviceable assets to AFLC customers.

COMPLETED PROJECT

Project Number: 881-65-015

Title: DRIVE Concept of Operations Development

Project Manager: Mr Robert Appelbaum, MMISD, AUTOVON 787-5248

Project Sponsor: HQ AFLC/MMIS

Synopsis: The DRIVE Concept of Operations documents the current repair systems, the current system limitations, how DRIVE works and how DRIVE will be implemented with both current systems and the logistics modernization programs. This concept provides the roadmap for the development and implementation of DRIVE in the Air Force Logistics Command.

COMPLETED PROJECT

Project Number: 881-65-016

Title: Quarterly DRIVE Functional Requirements Identification

Project Manager: Mr Robert Appelbaum, MMISD, AUTOVON 787-5248

Project Sponsor: HQ AFLC/MMIS

Synopsis: The functional requirement for the development of the quarterly DRIVE process outlines the data inputs, the workings of the quarterly version of the DRIVE process. It describes how the DRIVE-computed repair quantity forecasts will be injected into the current and logistics modernization systems and how this output will be used to effect repair of exchangeable items. This requirement is included in the WSMIS/DRIVE Functional Description and is the baseline for the system design of WSMIS/DRIVE.

PROJECT PROPOSAL

Title: DRIVE Feedback Mechanism Development

Project Sponsor: HQ AFLC/MMIS

Problem Statement/Mission Impact: DRIVE is being developed in AFLC to prioritize the repair and distribution of recoverable assets in the Air Force inventory. Part of this process must include the development of a mechanism which identifies large differences between the quarterly DRIVE forecast and the production period DRIVE forecast. This will minimize the volatility in the repair quantities forecast by DRIVE therefore minimizing maintenance workload fluctuations. The result of this study will be included in the design of the WSMIS/DRIVE system.

PROJECT PROPOSAL

Title: DRIVE/D073 Interface Requirements Determination

Project Sponsors: HQ AFLC/MMIS HQ AFLC/MMIR

Problem Statement/Mission Impact: AFLC is developing DRIVE to prioritize repair and distribution of recoverable assets in the Air Force inventory. Included in this development process is the need to interface with the Repair Requirements Computation System (D073). We must determine the interface requirements and identify all necessary system changes. These results will be used to modify D073 to accept DRIVE information.

PROJECT PROPOSAL

Title: Operating DRIVE In a Wartime Environment

Project Sponsors: HQ AFLC/MMIS AFLC/SMWW

Problem Statement/Mission Impact: AFLC is currently developing DRIVE to prioritize the repair and distribution of recoverable assets in the Air Force inventory. In order to complete the DRIVE system design and to assure the uninterrupted repair of priority assets in wartime, we must develop alternative methods for operating DRIVE in wartime. The result of this study will be included in the WSMIS/DRIVE system design.

PROJECT PROPOSAL

Title: DRIVE Requirements Stability Study

Project Sponsor: HQ AFLC/MMIS

Problem Statement/Mission Impact: DRIVE is currently being tested in a prototype environment at the Ogden Air Logistic Center (OO-ALC). As part of this prototype, we must determine the effect of DRIVE on maintenance workloading and "bit and piece" parts supportability. In this study we will investigate the stability of the DRIVE-forecasted repair quantities and the impact of this on parts support. The results will be used as part of the WSMIS/DRIVE system design.

PROJECT PROPOSAL

Title: Aircraft Availability Goal Sensitivity Analysis

Project Sponsor: HQ AFLC/MMIS

Problem Statements/Mission Impact: DRIVE uses aircraft availability goals which are set by Mission Design Series (MDS)/Base combination to aid in prioritizing repair and distribution of recoverable assets in the Air Force inventory. These goals must be "set correctly" to ensure proper levels of support to AFLC customers. We must determine the sensitivity of DRIVE to these goals to "set them correctly" in cooperation with Headquarters, United States Air Force and all other major commands (MAJCOMS).

THE FUTURE

Throughout this Master Plan, and through previous publications of our Master Plan, our goal remains to provide the tools, analysis and information to help Air Force logistics managers make smart decisions. We are especially focusing on ways to help decision makers translate weapon system management objectives into effective requirements, budgetary, and stockage policy decisions. We're perpetually striving to provide analysis which is responsive to the needs of our customers at both the base and the depot, and we plan to continue working closely with our customers to identify, prioritize and conduct our analysis.

We've described our hope to move the AFLC logistics management information systems forward with incremental improvements towards the goals of the logistics modernization systems such as the Requirements Data Bank (RDB) and the Stock Control and Distribution (SC&D) systems. We've come a long way so far, having implemented the Aircraft Availability Model (AAM) for peacetime spares requirements and Dyna-METRIC for wartime spares. However, we cannot stop there, for much remains to be done. This Master Plan hopefully shed some light on where we're headed to keep up the momentum of developing and implementing practical but more sophisticated tools for logistics management. The Distribution and Repair in Variable Environments (DRIVE) concept is but one example.

As always, we welcome comments and inputs to our plan. Please submit any proposals to HQ AFLC/MMIS (we've included an example format which we ask our customers to use). We'll do our best to be responsive to your needs.

In conclusion, we wanted to point out that our cover page quotes the AFLC motto, "Combat Strength Through Logistics." Underneath we've added our own phrase, "Logistics Strength Through Analysis." It emphasizes that Materiel Management analysis will continue to play a vital role in helping Air Force logistics meet the challenges of the coming decade and the next century. We're ready to energetically step up to those challenges.

FROM: _____ DATE: _____
(Division Level)

SUBJECT: REQUEST FOR MMIS ANALYSIS

TO: MMIS

The purpose of this form is to request MMIS analysis support.

TITLE OF PROJECT: (General subject area of your request)

PROJECT SPONSOR: (Name, Office Symbol, Phone Number)

PROBLEM STATEMENT: (What would you like MMIS to do? Be specific. Include functional areas affected.)

ANTICIPATED BENEFITS: (How will your office, the Air Force, etc., benefit from the analysis? Be as specific as possible.)

Name: _____

1st IND/MMIS DATE: _____

TO: _____

Request received _____ and will be prioritized at the next MMI/MMM (Date)

prioritization meeting on _____.

Name: _____